

SERVICE MANUAL

BA-5D CHASSIS

<u>MODEL NAME</u>	<u>REMOTE COMMANDER</u>	<u>DESTINATION</u>	<u>CHASSIS NO.</u>
KV-27FV310	RM-Y181	US	SCC-65K-A
KV-27FV310	RM-Y181	CND	SCC-64G-A
KV-29FV310	RM-Y181	LATIN NORTH	SCC-62P-A
KV-29FV310	RM-Y181	LATIN SOUTH	SCC-62Q-A
KV-32FV310	RM-Y181	US	SCC-65M-A
KV-32FV310	RM-Y181	CND	SCC-64J-A
KV-36FV310	RM-Y181	US	SCC-65Q-A
KV-36FV310	RM-Y181	CND	SCC-64M-A
KV-36FV310	RM-Y181	HAWAII	SCC-67E-A

ORIGINAL MANUAL ISSUE DATE: 4/2003

 :UPDATED ITEM

REVISION DATE	REVISION TYPE	SUBJECT
4/2003	No revisions or updates are applicable at this time.	
10/2003	Updated Rear Cover PN 6-2. Picture Tube (KV-27FV310/29FV310 Only) and	
	6-4. Picture Tube (KV-32FV310 Only) (Replace Pgs. 58 & 60)	
12/2004	Updated A Board Schematic (Replace Pg. 34)	

TRINITRON® COLOR TELEVISION
SONY®

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KV-36FV310	RM-Y181	US	SCC-65Q-A
KV-36FV310	RM-Y181	CND	SCC-64M-A
KV-36FV310	RM-Y181	HAWAII	SCC-67E-A



KV-36FV310




RM-Y181

TRINITRON® COLOR TELEVISION

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SPECIFICATIONS

	KV-27FV310 KV-29FV310(N)	KV-29FV310(S)	KV-32FV310	KV-36FV310
Power requirements	120V, 60Hz	220V, 50/60 Hz	120V, 60Hz	120V, 60Hz
Number of Inputs/Outputs				
Video ¹⁾	3	3	3	3
S Video ²⁾	2	2	2	2
Y, P_B, P_R ³⁾	2	2	2	2
Audio ⁴⁾	3	3	3	3
Audio Out ⁵⁾	1	1	1	1
Monitor Out	1	1	1	1
Speaker output (W)	7.5 W X 2, 15 Wsubwoofer	7.5 W X 2, 15 Wsubwoofer	7.5 W X 2, 15 Wsubwoofer	7.5 W X 2, 15 Wsubwoofer
Power Consumption (W)				
In use (Max)	220 W	220 W	230 W	230 W
In Standby	1W	1W	1W	1W
Dimensions(W x H x D)				
mm	784 x 601.5 x 520 mm	784 x 601.5 x 520 mm	898 x 682 x 584 mm	1020 x 760 x 640 mm
in	30 ^{7/8} x 23 ^{11/16} x 20 ^{1/2}	30 ^{7/8} x 23 ^{11/16} x 20 ^{1/2}	35 ^{3/8} x 26 ^{7/8} x 23	40 ^{1/4} x 30 x 25 ^{1/4}
Mass				
kg	48 kg	48 kg	78 kg	102 kg
lbs	105 lbs. 13 oz.	105 lbs. 13 oz.	171 lbs. 15 oz.	224 lbs. 14 oz.

Television system

American TV standard, NTSC

Channel coverage

VHF: 2-13/ UHF: 14-69/ CATV: 1-125

Picture tube

FD Trinitron® tube

Visible screen size

27 inch picture measured diagonally (KV-27FV310/29FV310)

32 inch picture measured diagonally (KV-32FV310)

36 inch picture measured diagonally (KV-36FV310)

Actual screen size

29 inch measured diagonally (KV-27FV310/29FV310)

34 inch measured diagonally (KV-32FV310)

38 inch measured diagonally (KV-36FV310)

Antenna

75-ohm external antenna terminal for VHF/UHF

Supplied Accessories

Size AA (R6) batteries (2)

Remote Control RM-Y181 (1) (KV-27FV310/29FV310/32FV310/36FV310)

Optional Accessories

TV Stand: SU-27F1 for (KV-27FV310/29FV310)

SU-32F1 for (KV-32FV310)

SU-36F1 for (KV-36FV310)

1) 1 Vp-p 75 ohms unbalanced, sync negative

2) Y: 1 Vp-p 75 ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

3) Y: 1.0 Vp-p, 75 ohms, sync negative;

PB: 0.7 Vp-p, 75 ohms

PR: Vp-p, 75 ohms

4) 500 mVrms (100% modulation), Impedance: 47 kilohms

5) More than 408 mVrms at the maximum volume setting (variable)

More than 408 mVrms (fix)

XBR

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by **SRS (SOUND RETRIEVAL SYSTEM)®**

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WARNING AND CAUTIONS

CAUTION


Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.



SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.


ATTENTION!!

Après avoir déconnecté le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au châssis métallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.



ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifiés par une trame et par une marque  sur les schémas de principe, les vues explosées et les listes de pièces sont d'une importance critique pour la sécurité du fonctionnement. Ne les remplacer que par des composants Sony dont le numéro de pièce est indiqué dans le présent manuel ou dans des suppléments publiés par Sony. Les réglages de circuit dont l'importance est critique pour la sécurité du fonctionnement sont identifiés dans le présent manuel. Suivre ces procédures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

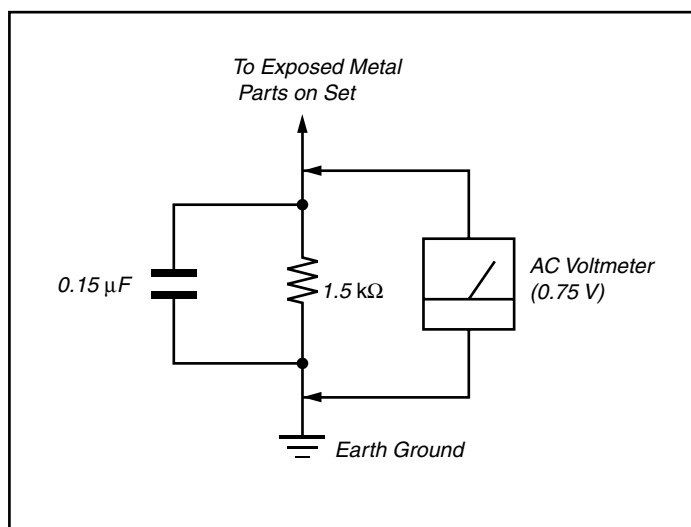


Figure A. Using an AC voltmeter to check AC leakage.

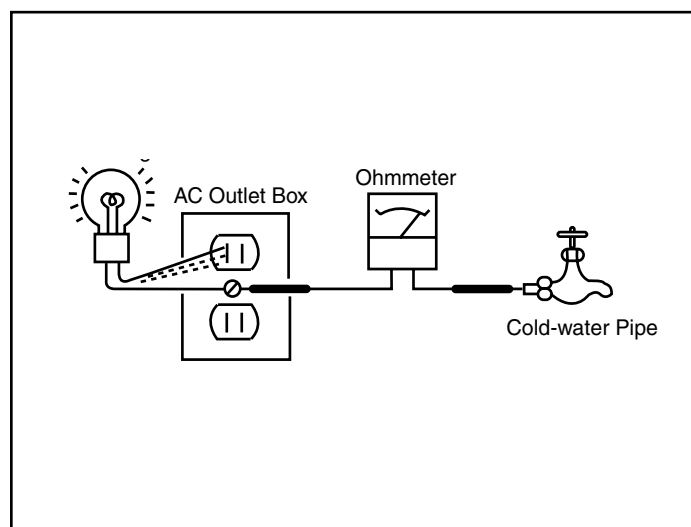


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION



The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

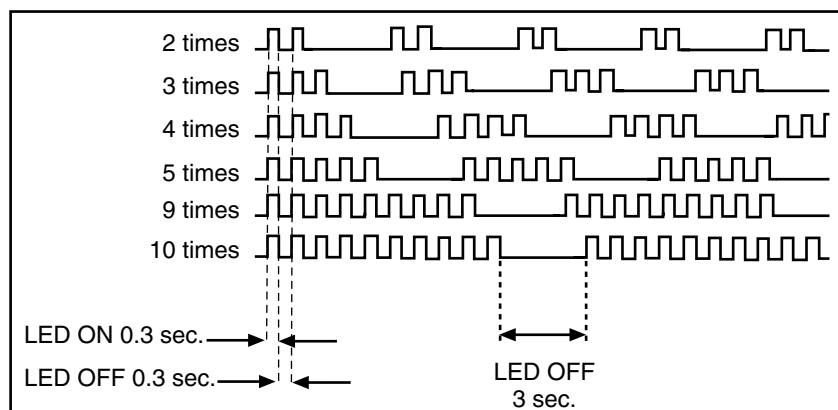
Results for all of the following diagnostic items are displayed on screen. If the screen displays a "0", an error has occurred.

Diagnostic Item	No. of times STANDBY / TIMER lamp flashes	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	<ul style="list-style-type: none"> Power cord is not plugged in. Fuse is burned out (F601). (GK Board) 	<ul style="list-style-type: none"> Power does not come on. No power is supplied to the TV. AC Power supply is faulty.
+B overcurrent (OCP)*	2 times	<ul style="list-style-type: none"> H.OUT (Q502) is shorted. (A Board) IC702 is shorted. (C Board) 	<ul style="list-style-type: none"> Power does not come on. Load on power line shorted.
+B overvoltage (OVP)	3 times	<ul style="list-style-type: none"> IC501 is faulty. (A Board) If a high is supplied to pin 2 of IC501. (A Board) 	<ul style="list-style-type: none"> Has entered standby mode.
V-Stop	4 times	<ul style="list-style-type: none"> +12V is not supplied. (A Board) IC561 is faulty. (A Board) 	<ul style="list-style-type: none"> Has entered standby state after horizontal raster. Vertical deflection pulse is stopped. Power line is shorted or power supply is stopped.
IK (AKB)	5 times	<ul style="list-style-type: none"> Video OUT (IC561) is faulty. (A Board) IC702 is faulty. (C Board) Screen (G2) is improperly adjusted. ** 	<ul style="list-style-type: none"> No raster is generated. CRT Cathode current detection reference pulse output is small.
Zero Cross	9 times	<ul style="list-style-type: none"> No zero cross pulses on pin 45 IC1001. (A Board) 	<ul style="list-style-type: none"> Power does not come on.
9V Check	10 times	<ul style="list-style-type: none"> Relay failed (RY600) 	<ul style="list-style-type: none"> Power does not come on.

* If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on the screen.

** Refer to Screen (G2) Adjustments in Section 2-4 of this manual

Display of Standby/Timer LED Flash Count



Diagnostic Item	Flash Count*
+B Overcurrent	2 times
+B Overvoltage	3 times
V-STOP	4 times
IK (AKB)	5 times
Zero Cross	9 times
9V	10 times

*One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:

DISPLAY ➡ Channel **5** ➡ Sound volume **0** ➡ Power ON.

SELF DIAGNOSIS		
2: +B OCP		0
3: +B OVP		0
4: VSTOP		0
5: AKB		1
9: ZCD		0
10: 9VON		0
101: WDT		0
Serial: xxxxxxx		
Model: xxxxxxx		

Numeral "0" means that no fault was detected.

Numeral "1" means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

Unless the result display is cleared to "0", the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

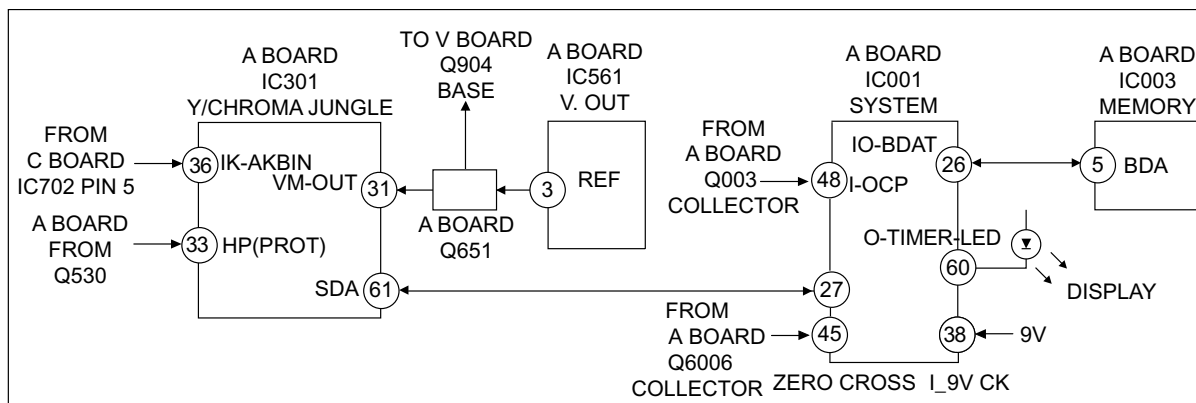
To clear the result display to "0", press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel **8** ➡ **ENTER**

Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)

Occurs when an overcurrent on the +B (135V) line is detected by pin 48 of IC001 (A Board). If the voltage of pin 48 of IC001 (A Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

+B over voltage (OVP)

Occurs when a high is felt on pin 2 of IC501 (A Board).

V-STOP

Occurs when an absence of the vertical deflection pulse is detected by pin 31 of IC301 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

IK (AKB)

If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC301 (A Board). TV will stay on, but there will be no picture.

*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

Zero Cross

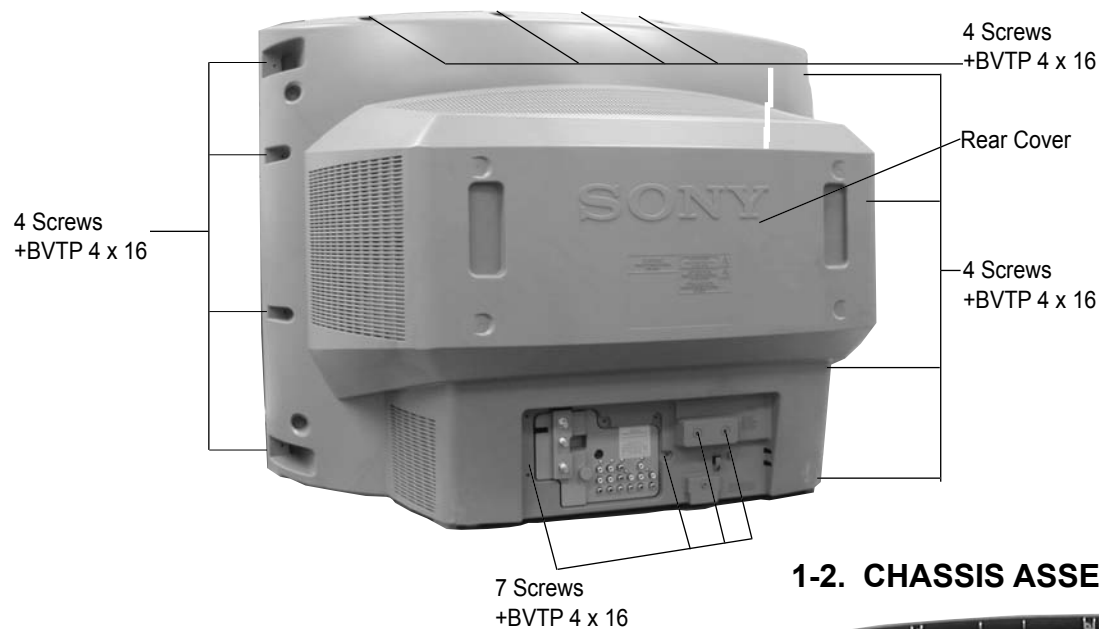
Check Q691 collector (GK Board) 7.5V STBY goes to 0V when the set is turned on.

9V Check

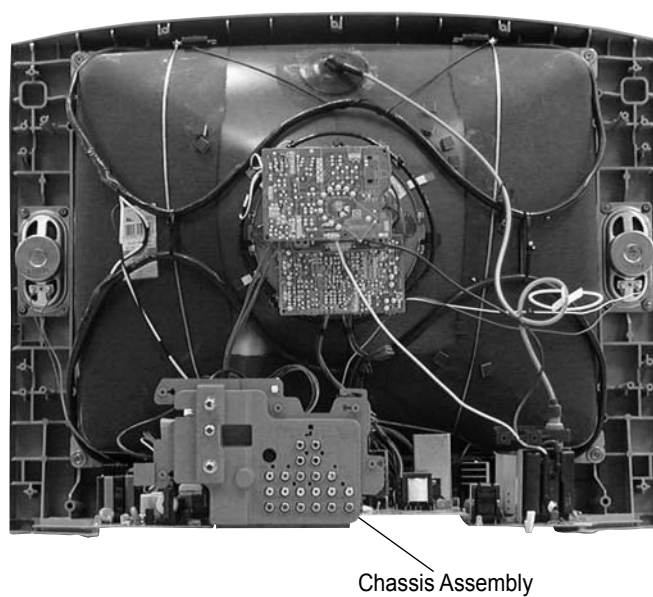
Check Q691 collector (GK Board) 7.5V STBY goes to 0V when the set is turned on.

SECTION 1: DISASSEMBLY

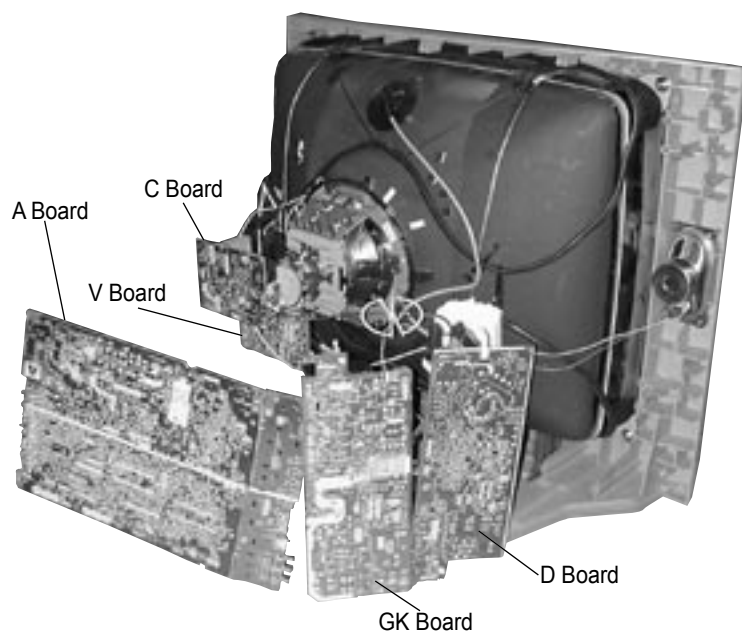
1-1. REAR COVER REMOVAL



1-2. CHASSIS ASSEMBLY REMOVAL



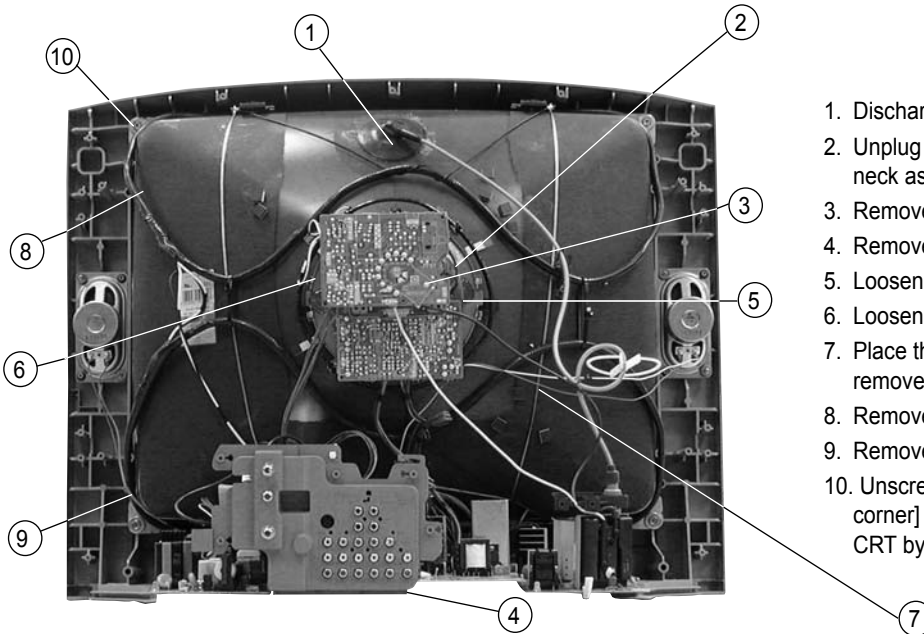
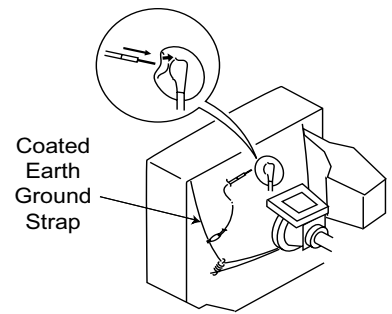
1-3. SERVICE POSITION REMOVAL



1-4. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.



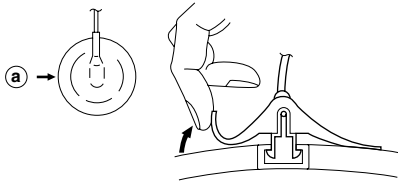
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
8. Remove the degaussing coils.
9. Remove the CRT grounding strap and spring tension devices.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

ANODE CAP REMOVAL PROCEDURE

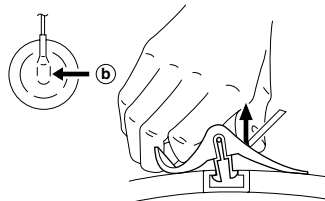
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. After removing the anode cap, short circuit to either the metal chassis, CRT shield, or carbon painted on the CRT.

NOTE: After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield or carbon painted on the CRT.

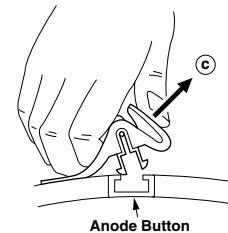
REMOVAL PROCEDURES



Turn up one side of the rubber cap in the direction indicated by arrow a.



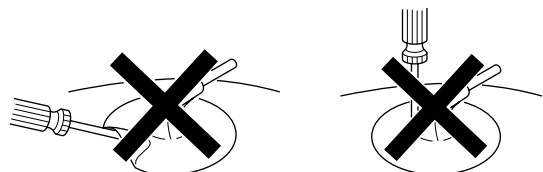
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow b.



When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow c.

HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminal is built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed. These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

PICTURE CONTROL: normal
BRIGHTNESS CONTROL: normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)/White Balance

Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter
5. Oscilloscope
6. CRT Analyzer

2-1. BEAM LANDING

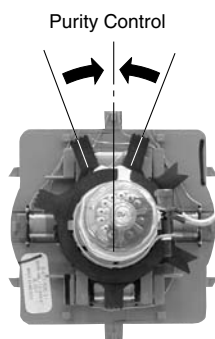
Preparation:

- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

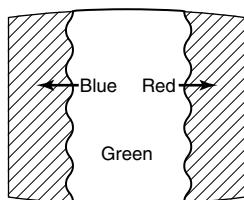
NOTE: Do not use the hand degausser; it magnetizes the CRT .

ADJUSTMENT PROCEDURE

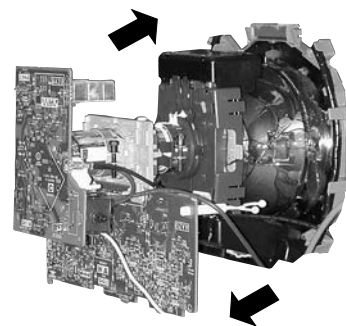
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



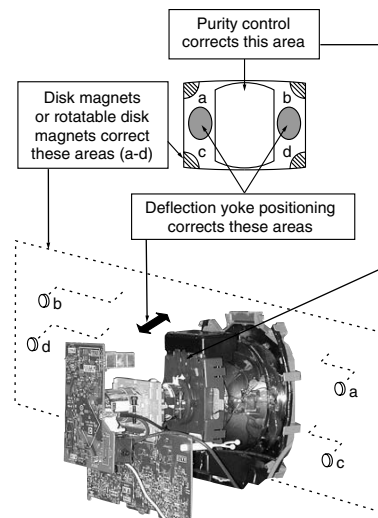
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



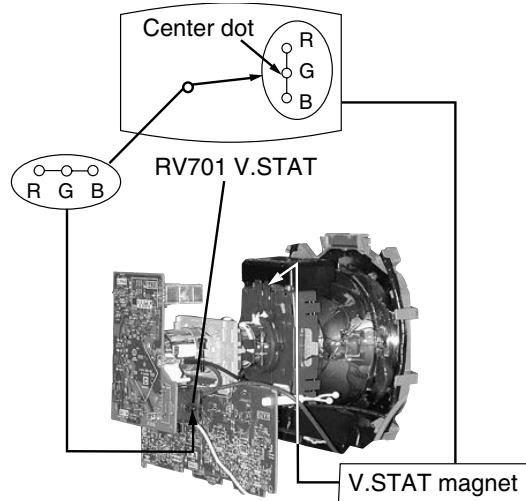
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



2-2. CONVERGENCE

Preparation:

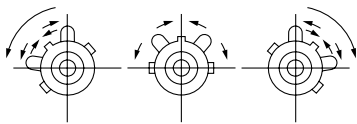
- Perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.



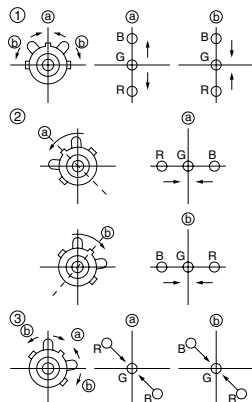
VERTICAL AND HORIZONTAL STATIC CONVERGENCE

1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen (Vertical movement).

Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



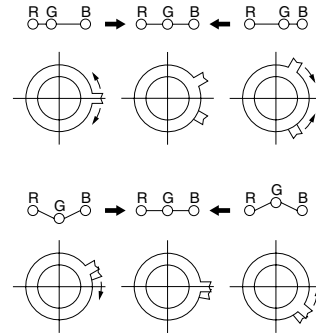
2. When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



OPERATION OF BMC (HEXPOLE) MAGNET

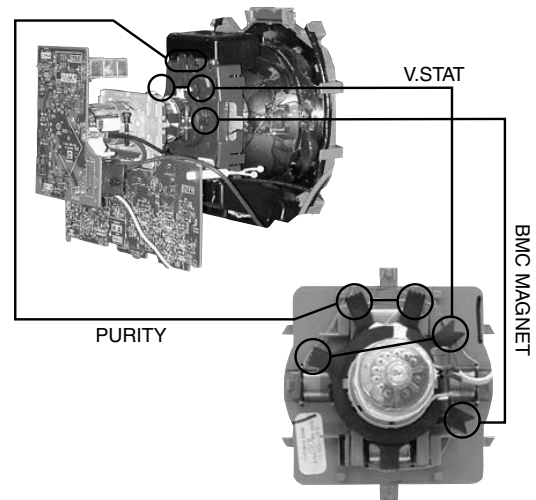
The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

- 1 Use the V. STAT tabs to adjust the red, green, and blue dots so they line up at the center of the screen (move the dots in a horizontal direction).



Y SEPARATION AXIS CORRECTION MAGNET ADJUSTMENT

1. Input cross-hatch pattern, adjust PICTURE to minimum and BRIGHTNESS to normal.
2. Adjust the deflection yoke upright so it touches the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical from top to bottom (open state).

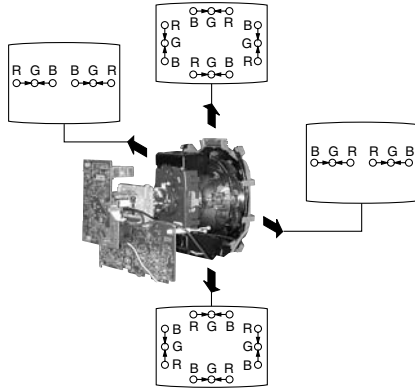


4. Return the deflection yoke to its original position.

DYNAMIC CONVERGENCE ADJUSTMENT

Before starting, perform Vertical and Horizontal Static Convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:

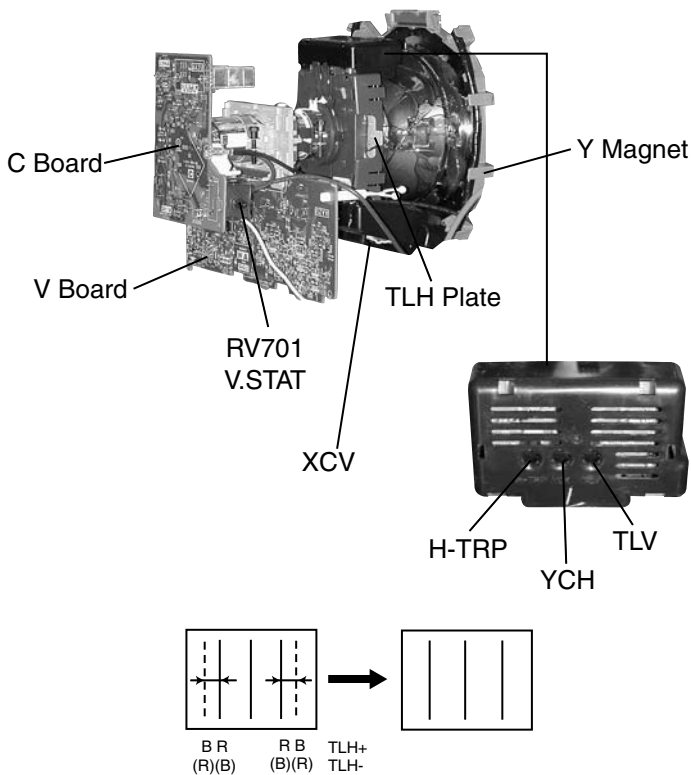


4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

TLH PLATE ADJUSTMENT

Preparation:

- Input crosshatch pattern.
- Adjust Picture Quality to standard, Picture and Brightness to 50%, and Other to standard.
- Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.

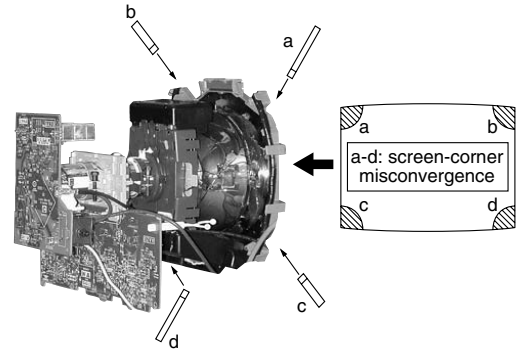


1. Adjust XCV core to balance X axis.
2. Adjust YCH VR to balance Y axis.
3. Adjust vertical red and blue convergence with V.TILT (TLV VR.)
Perform adjustments while tracking items 1 and 2.
4. Adjust Y MAGNET to correct V.BOW Geometry Distortion.
5. Adjust H-TRP to correct H.Trapezoid Geometry Distortion.

After adjusting items 4 and 5, confirm overall geometry again.

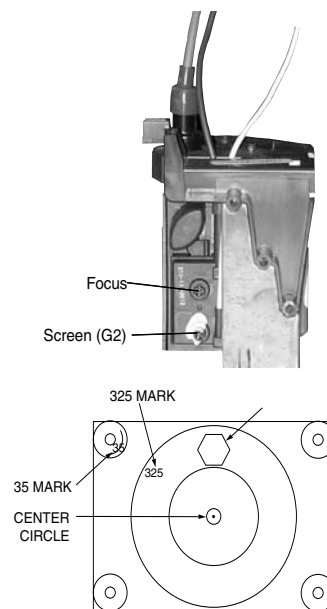
SCREEN-CORNER CONVERGENCE

1. Affix a permalloy assembly corresponding to the misconverged areas:



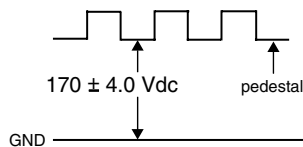
2-3. FOCUS

1. Input monoscope signal.
2. Set user controls to normal.
3. Set video mode to STANDARD.
4. Set the PICTURE to maximum.
5. Adjust at 325 Mark for best center/corner focus balance.
6. Receive an entire white signal. Make sure Magenta Ring is at an acceptable level.



2-4. SCREEN (G2)

1. Input dot pattern from the pattern generator.
2. Set the user controls to NORMAL.
3. Attach the G2-Jig to the C Board.
4. Adjust RCUT, GCUT, BCUT, and SBRT in service mode with an oscilloscope so that voltages on the red, green, and blue cathodes are $170 \pm 4.0\text{Vdc}$.
5. Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.
6. Push the TEST + JUMP (+ Channel) to cut off the signal. The screen should be bright or dark. Brightness of raster must be increased when adjusting.
7. Adjust screen VR until the screen is slightly cut off, or scarcely lights up. A signal cannot be seen when the brightness of the raster is high.
8. Push the JUMP again to release the cut off.



2-5. WHITE BALANCE ADJUSTMENTS

Adj.	NO.	Disp.	Item	All Models
VID_ADJ	0	RDRV	Red Drive	41
VID_ADJ	1	GDRV	Green Drive	32
VID_ADJ	2	BDRV	Blue Drive	29
VID_ADJ	3	RCUT	Red Cut-off	31
VID_ADJ	4	GCUT	Green Cut-off	14
VID_ADJ	5	BCUT	Blue Cut-off	17
VP2	4	SBRT	Sub Bright	16


1. Set program palette to STANDARD and push RESET.
2. Input an entire white signal.
3. Set to Service Adjustment Mode.
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Set RCUT to "14".
7. Select GCUT and BCUT with **[3]** and **[5]**.
8. Adjust by pressing **[1]** and **[4]** for the best white balance.
9. Set the PICTURE and BRIGHT to maximum.
10. Select GDRV and BDRV with **[3]** and **[5]**.
11. Adjust with **[3]** and **[6]** for the best white balance.
12. Write into the memory by pressing **[3]** then **[5]**.
13. Repeat steps 1-12 for GDR4, BDR4, GCU4 and BCU4 using Video 4 input.



* Use values from Sub Contrast Adjustments

White balance should be adjusted after Sub Contrast because RDRV is also used in Sub Contrast Adjustment. (See page 26)

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. RV8002 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

Always perform the following adjustments when replacing the following components marked with a  mark on the schematic diagram:

Part Replaced ()	Adjustment ()
D BOARD: D8022, IC8001, IC8004, IC8005, IC8104, R8014, R8015, R8016, R8017, R8019, R8021, R8046, R8052, R8072, R8078, R8079, R8082, R8091, R8095 GK BOARD: IC601	HV HOLD DOWN RV8002

PREPARATION BEFORE CONFIRMATION

Equipment: HV meter, DVM, Analog Current meter.

Condition: AC input voltage: 130 (± 2) VAC.

Set condition: Reset condition.

Signal Input: All black video signal for Cut off, All white signal for High light.

HV PROTECTOR CHECK-CUT OFF CONDITION

1. Remove D board and carefully lift as necessary to gain access to the bottom of the board. Open ABL pin 1 on RHT (T8001) and connect analog current meter.
2. Make Cut Off condition. Input all black video signal and set picture and brightness to min., ABL current should be approximately **$0.15 \pm 0.05\text{mA}$ for 27/29" and $0.16 \pm 0.05\text{mA}$ for 32/36"**.
3. Short across C8002, C8021 and C8301.
4. Turn off the set and install precision VR jig (initially set to 100K) to IC 8005 pin 1 and GND (C8076 -). Restore power and adjust to obtain **$34.6 \pm 0.2\text{kV}$ for 27/29" and $36.0 \pm 0.2\text{kV}$ for 32/36"**.
5. Remove short from C8002 and confirm that hold down activates.
6. Short C8002 again and confirm that HV recovers.
7. Then readjust precision VR jig to obtain **$31.5 \pm 0.2\text{kV}$ for 27/29" and $32.5 \pm 0.2\text{kV}$ for 32/36"**.
8. Remove short from C8002, C8021 and C8301.
9. Confirm that hold down does **not** activate

HV PROTECTOR CHECK-HIGH LIGHT CONDITION

1. Short across C8002, C8021, C8301, C8012 and C8015.
2. Open pin 10 (ABL) of IC301 (YCJ).
3. Set video to white field. Set HV current load to **$i_{abl} = 2.74 \pm 0.05\text{mA}$ for 27/29" and $i_{abl} = 3.04 \pm 0.05\text{mA}$ for 32/36"** by adjusting picture and brightness to maximum condition.
4. Adjust VR jig to obtain **$33.10 \pm 0.2\text{kV}$ for 27/29" and $34.25 \pm 0.2\text{kV}$ for 32/36"**.
5. Remove short from C8002 and confirm that hold down activates.
6. Short C8002 again and confirm that HV recovers.
7. Then readjust precision VR jig to obtain **$31.0 \pm 0.2\text{kV}$ for 27/29" and $32.0 \pm 0.2\text{kV}$ for 32/36"**.
8. Remove shorts from C8002, C8021 and C8301.
9. Confirm that hold down does **not** activate.
10. Remove shorts from C8012, C8015.

SECTION 4: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

Use the Remote Commander (RM-Y181) to perform the circuit adjustments in this section.

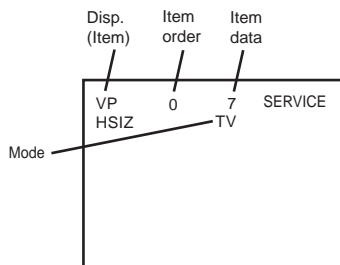
Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING THE SERVICE ADJUSTMENT MODE

- Standby mode (Power off).
- Press the following buttons on the remote commander within a second of each other:

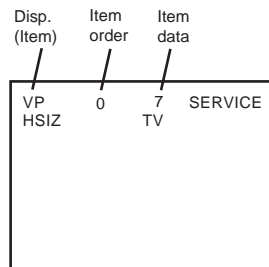
DISPLAY → Channel **5** → Sound Volume **+** → Power

SERVICE ADJUSTMENT MODE ON

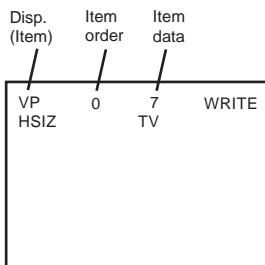


- The CRT displays the item being adjusted.
- Press **1** or **2** on the Remote Commander to select the item.
- Press **3** or **6** on the Remote Commander to change the data.
- Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



- Press **8** then **ENTER** on the Remote Commander to initialize.



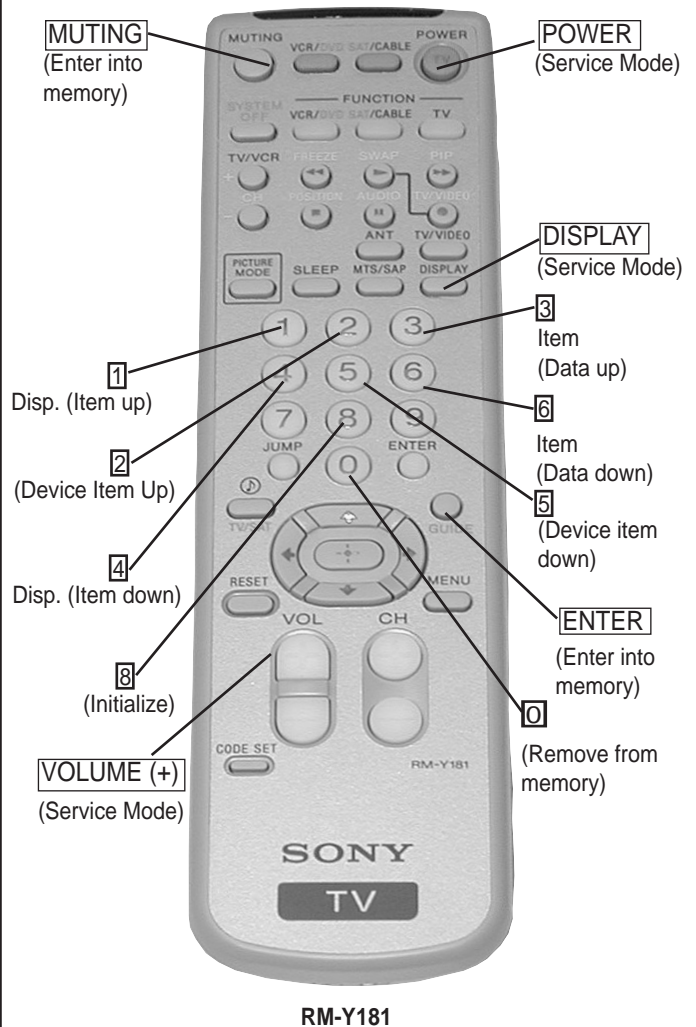
Carry out Step 1 when adjusting ID's 0-7 and when replacing and adjusting IC003.

- Press **MUTING** then **ENTER** to write into memory.
- DO NOT turn off set until SERVICE appears.

4-2. MEMORY WRITE CONFIRMATION METHOD

- After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
- Turn the power switch ON and set to Service Mode.
- Call the adjusted items again to confirm they were adjusted.

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y181

4-4. SERVICE DATA LISTS

Service Group	Fix/Var	No.	Name	Description	Common Init Data
VERSION	Fix	0	VER	Microprocessor version information	=

Service Group	Fix/Var	No.	Name	Description	Common Init Data
VP1	Var	0	HSIZ	H SIZE (11 / 2-7)	
	Var	1	HPOS	HPOS (12 / 2-7)	
	Var	2	VBOW	AFC BOW (16 / 4-7)	
	Var	3	VANG	AFC ANGLE (16 / 0-3)	
	Var	4	VTRP	TRAPEZIUM (20 / 3-7)	
	Var	5	HTRP	H. TRAPEZOID (15 / 4-7)	
	Var	6	TROT	TILT ROTATION (0-63)	
	Var	7	PAMP	PIN AMP (13 / 2-7)	
	Var	8	UPIN	UP-CPIN (14 / 2-7)	
	Var	9	LPIN	LO-CPIN (1C / 2-7)	
	Var	10	VSIZ	V SIZE (0E / 2-7)	
	Var	11	VPOS	V POSITION (0E / 2-7)	
	Var	12	VLIN	V LINEARITY (10 / 0-3)	
	Var	13	SCOR	S CORRECTION (10 / 4-7)	
	Fix	14	VZOM	16:9 CRT Z Mode on/off	0
	Var	15	EHT	Vertical High-Voltage Compensation	0
	Fix	16	ASP	Aspect Ratio control (4:3 Mode)	47
	Fix	17	ASP1	Aspect Ratio control (16:9 Mode)	47
	Fix	18	SCRL	16:9 CRT Z Mode Trans. Scroll	31
	Fix	19	HBLK	Horizontal Blanking on/off	1
	Fix	20	LBLK	Left Blanking Adjustment	12
	Fix	21	RBLK	Right Blanking Adjustment	6
	Fix	22	HDW	Horizontal Drive Pulse Width	1
	Fix	23	EWDC	"Parabola" EW, D.C. Adjustment	0
	Fix	24	LVLN	Lower Screen BTM Vertical Line Adj.	0
	Fix	25	UVLN	Upper Screen BTM Vertical Line Adj.	0
	Fix	26	INTL	INTERLACE	0
	Fix	27	HOSC	Horizontal VCO Oscillation Freq.	7
	Fix	28	VSS	Vertical Sync Slice Level	0
	Fix	29	HSS	Horizontal Sync Slice Level	0
	Fix	30	HMSK	For Macro Vision	0
	Fix	31	VTMS	Select Signal VTIM Pin	0
	Fix	32	TCMD	Vertical Count Down Mode Switching (for TV)	1
	Fix	33	VCMD	Vertical Count Down Mode Switching (for Video)	3
	Fix	34	AFC	AFC Loop Gain Switching	0
	Fix	35	FIFR	Field Frequency	1
	Fix	36	VBLK	VBLKW	0
	Fix	37	HTSW	H-Trap Switch : NEW	0

SERVICE DATA LISTS

Service Group	Fix/Var	No.	Name	Description	Common Init Data
VP2	Fix	0	REFP	REFP	0
	Fix	1	JPSW	Jump SW	=
	Var	2	SHUE	Sub HUE adjustment	
	Var	3	SCOL	Sub COLOR adjustment	
	Var	4	SBRT	Sub BRIGHTNESS adjustment	
	Fix	5	SBRO	Sub BRIGHTNESS adjustment for YUV	3
	Fix	6	AXPL	Axis PAL	0
	Fix	7	AXNT	Axis NTSC	1
	Fix	8	CBPF	Chroma BPF on/off	1
	Fix	9	CTRP	Y TRAP FILTER on/off	1
	Fix	10	COFF	Color On/off	=
	Fix	11	KOFF	Set Color Killer	0
	Fix	12	SSHR	Sub SHARPNESS for RF	4
	Fix	13	SSHV	Sub SHARPNESS for Video	4
	Fix	14	SHP4	Sub SHARPNESS for YUV	4
	Fix	15	TSPF	SHARPNESS Circuit Fo (for TV)	2
	Fix	16	VSPF	SHARPNESS Circuit Fo (for Video)	3
	Fix	17	PREL	Pre-Shoot/ Over-Shoot	1
	Fix	18	ABLM	ABL Mode Switch	1
	Fix	19	VTH	ABL CD VHT Switching	=
	Fix	20	YDEC	Y Delay Time Control (Video4, SVideo1, SVideo2)	0
	Fix	21	YDYS	Y Delay Time Control (RF, Video1, Video2, Video3)	0
	Fix	22	NCOL	No Color ID	1
	Fix	23	FSC	FSC Out on/off	0
	Fix	24	KID	Killer ID Control on/off	0
	Fix	25	SHOF	Offset for sharpness	0

Service Group	Fix/Var	No.	Name	Description	Common Init Data	NTSC Init Data	PAL-M Init Data	PAL-N Init Data
VID_ADJUSTMENT	Fix	0	RDRV	R DRIVE (0A / 7-2)	41			
	Var	1	GDRV	G DRIVE (0B / 7-2)				
	Var	2	BDRV	B DRIVE (0C / 7-2)				
	Fix	3	RCUT	R CUT OFF (07 / 7-2)	31			
	Var	4	GCUT	G CUT OFF (08 / 7-2)				
	Var	5	BCUT	B CUT OFF (09 / 7-2)				
	Var	6	SCON	Sub Contrast adjustment				
	Fix	7	CHUE	Sub HUE adjustment for TV	18			
	Var	8	HUE4	Sub HUE adjustment for YUV				
	Fix	9	CCOL	Sub COLOR adjustment for TV		14	18	23
	Var	10	COL4	Sub COLOR adjustment for YUV				
	Var	11	UOFS	YUV U offset				
	Var	12	VOFS	YUV V offset				
	Fix	13	RON	R ON (01 / 3)	=			
	Fix	14	GON	G ON (01 / 2)	=			
	Fix	15	BON	B ON (01 / 1)	=			
	Var	16	HUEV	Sub HUE adjustment for Video				
	Var	17	COLV	Sub COLOR adjustment for Video		7	7	7

SERVICE DATA LISTS

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
ENCODER	Fix	0	RDR4	R DRIVE (0A / 7-2)	41
	Var	1	GDR4	G DRIVE (0B / 7-2)	
	Var	2	BDR4	B DRIVE (0C / 7-2)	
	Fix	3	RCU4	R CUT OFF (07 / 7-2)	31
	Var	4	GCU4	G CUT OFF (08 / 7-2)	
	Var	5	BCU4	B CUT OFF (09 / 7-2)	
	Fix	6	CON4	Sub Contrast adjustment	12
	Fix	7	EHUE	Sub HUE adjustment for TV	28
	Fix	8	ECOL	Sub COLOR adjustment for TV	31
	Fix	9	HPO4	HPOS (12 / 2-7)	Same as HPOS + 1
	Fix	10	CDL4	Encoder CDL 3D Register	6
	Fix	11	YNR4	Encoder YNRL 3D Register	1
	Fix	12	CNR4	Encoder CNRL 3D Register	1
	Fix	13	NRM4	Encoder VAPG 3D Register	3
	Fix	14	VAP4	Encoder NRMD 3D Register	3
	Var	15	ESHU	Sub HUE adjustment for Video	10
	Var	16	ESCO	Sub COLOR adjustment for Video	9
	Fix	17	HCN4	Encoder HCNT 3D Register	0
	Fix	18	YPGE	Encoder YPGE 3D Register	9

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
COL_TMP	Fix	0	GDOF	G DRIVE Offset	4
	Fix	1	BDOF	B DRIVE Offset	15
	Fix	2	GCOF	G CUT Offset	5
	Fix	3	BCOF	B CUT Offset	12
	Fix	4	DCOL	Dynamic Color	=

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
PIC_IMP	Fix	0	BLAD	Black area detect (01 / 6-7)	0
	Fix	1	SRTS	SRT level (01 / 4-5)	3
	Fix	2	YNR	YNR(01 / 2)	1
	Fix	3	GIRE	Gamma correction(01 / 0-1)	3
	Fix	4	DAC1	DAC1(02 / 7)	0
	Fix	5	DAC2	DAC2(02 / 6)	0
	Fix	6	VMGA	VM on 1226 (02/5-4)	0
	Fix	7	GCUR	Gamma curve(02 / 2)	1
	Fix	8	BLKC	Black Compensation (02 / 1)	1
	Fix	9	TEST	TEST(03 / 6-7)	3
	Fix	10	RS	RS (03 / 3-5)	0
	Fix	11	RTCH	RTC(03 / 0-2)	3
	Fix	12	RTCL	RTC(03 / 0-2)	3
	Fix	13	RTCO	RTC(03 / 0-2)	0
	Fix	14	APAH	APAC	0
	Fix	15	APAL	APAC	1
	Fix	16	APAO	APAC	1
	Fix	17	SRTH	SRT bit for Dynablack = High	1
	Fix	18	SRTL	SRT bit for Dynablack = Low	1
	Fix	19	SRT0	SRT bit for Dynablack = Off	0
	Fix	20	SHPH	Sharpness level for Dynablack = High	57
	Fix	21	SHPL	Sharpness level for Dynablack = Low	52
	Fix	22	SHPO	Sharpness level for Dynablack = Off	0

SERVICE DATA LISTS

Service Group	Fix/ Var	No.	Name	Description	VIVID Init Data	STANDARD	MOVIE	PRO
						Init Data	Init Data	Init Data
PALETTE	Fix	0	VPIC	User picture setting 0:min, 63: max	63	50	38	31
	Fix	1	VBRT	User brightness setting 0:min, 63: max	26	29	35	31
	Fix	2	VCOL	User color setting 0:min, 63: max	35	31	31	31
	Fix	3	VSHP	User sharpness setting 0:min, 63: max	31	33	31	31
	Fix	4	VVM	0: OFF, 1: Low, 2: High, 3: N/A	2	1	0	0
	Fix	5	VTRI	0: Cool, 1: Neutral, 2: Warm, 3: N/A	0	1	2	1
	Fix	6	VGMA	0: OFF, 1: Low, 2: Mid, 3: Max	2	1	0	0
	Fix	7	VNRM	0: 3D, 1: 2D	0	0	0	0
	Fix	8	VYDC	DC Transmission Ratio 0,1: 100%, 2: 92%, 3: 85	3	2	1	1
	Fix	9	VVEN	Vertical; Enhancement	4	3	3	0
	Fix	10	VHK0	Horizontal Peaking 0:On, 1:Off	0	0	0	1
	Fix	11	VDBK	User Dynablack 0: OFF, 1: Low, 2: High, 3: N/A	2	1	1	0
	Fix	12	VYPL	Y-Peaking Limit	1	0	0	0

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
3L_COMB	Fix	0	FUNN	Function (0 / 7-6) for NTSC	3
	Fix	1	FUNP	Function (0 / 7-6) for PALM, PALN	3
	Fix	2	DRNG	DRANG (0 / 2)	0
	Fix	3	YCSM	Y/C Sep Mode (0 / 1-0)	0
	Fix	4	CNRK	CNRK (1 / 7-6)	1
	Fix	5	CNRL	CNR Lim (1 / 5-4)	1
	Fix	6	CLPF	C-LPF(1 / 3)	1
	Fix	7	SLPF	SelC-LPF(1 / 2)	0
	Fix	8	MODE	Mode1 (1 / 1)	0
	Fix	9	YPG	Y - Peaking Gain (2 / 7-6)	3
	Fix	10	PDSC	Pds. Clip (2 / 3)	0
	Fix	11	YLPF	Y-LPF(2 / 2)	1
	Fix	12	VENL	V-Emph N.L (3 / 4-2)	4
	Fix	13	VEC	V - Emph Core (3 / 1-0)	3

SERVICE DATA LISTS

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
3D_COMB	Fix	0	COUT	COUTS(00 / 2-3)	3
	Fix	1	YAPS	YAPS(00 / 0-1)	1
	Fix	2	NSDS	NSDS(01 / 4-5)	0
	Fix	3	MSS	MSS(01 / 2-3)	0
	Fix	4	KILS	KILS (01 / 1-0)	1
	Fix	5	DYC	DYCOS (02 / 7-6)	2
	Fix	6	EXAD	EXADINS(02 / 5)	0
	Fix	7	EXCS	EXCSS(02 / 1- 0)	1
	Fix	8	CPP	CPP(03 / 6)	0
	Fix	9	HDP	HDP(03 / 3-5)	6
	Fix	10	CDL	CDL(03 / 0-2)	6
	Fix	11	DYCO	DYCOR(04 / 4-7)	2
	Fix	12	DYGA	DYGAIN(04 / 0-3)	10
	Fix	13	DCCO	DCCOR(05 / 4-7)	2
	Fix	14	DCGA	DCGAIN(05 / 0-3)	9
	Fix	15	YNRL	YNRLIM(06 / 4-5)	1
	Fix	16	CNRL	CNRLIM(06 / 0-1)	1
	Fix	17	ID1O	ID1ON(07 / 7)	0
	Fix	18	ID1W	ID1W0A1(07 / 6)	0
	Fix	19	ID1N	ID1W0A2(07 / 5)	0
	Fix	20	WSC	WSC(08 / 6-7)	1
	Fix	21	VTRH	VTRH(08 / 4-5)	1
	Fix	22	VTRR	VTRR(08 / 2-3)	1
	Fix	23	LDSR	LDSR(08 / 0-1)	2
	Fix	24	WSS	WSS (09 / 7)	0
	Fix	25	ID1E	ID1ECON (09 / 6)	1
	Fix	26	TT	TT (09 / 4 -5)	0
	Fix	27	FELC	FELCHK (09 / 3)	1
	Fix	28	TH	TH (09 / 1 -2)	0
	Fix	29	VAPG	VAPGAIN(0A / 5-7)	3
	Fix	30	VAPI	VAPINV(0A / 0-4)	25
	Fix	31	YPFT	YPFT(0B / 4-5)	3
	Fix	32	YPFG	YPFG(0B / 0-3)	9
	Fix	33	V1PS	V1PS(0C / 6-7)	3
	Fix	34	VEGS	VEGS(0C / 4-5)	2
	Fix	35	CC3N	CC3N(0C / 3)	0
	Fix	36	C0HS	C0HS(0C / 2)	0
	Fix	37	SEL2	SELD2FH(0C / 0)	1
	Fix	38	SEL1	SELD1FL(0D / 5)	1
	Fix	39	YHCO	YHCOR(10 / 6-7)	0
	Fix	40	YHCG	YHCGAIN(10 / 5)	1
	Fix	41	OVST	+OVST(10 / 3)	0
	Fix	42	CSHD	CSHDT(10 / 2)	0
	Fix	43	KCTT	KCTT(10 / 0-1)	0
	Fix	44	SHT	SHT(11 / 7-6)	0
	Fix	45	VCT	VCT(11/ 5)	0
	Fix	46	CGAT	CLKGAT (11 / 4)	0
	Fix	47	CG2D	CLK2D (11 / 3)	1
	Fix	48	CGGT	CLKGGT (11 / 2)	0
	Fix	49	CGEB	CLKGEB (11 / 1)	0
	Fix	50	CGT	CLKGT (11 / 0)	0
	Fix	51	HPLL	HPLLFS(12 / 7)	1
	Fix	52	BPLL	BPLLFS (12 / 6)	0
	Fix	53	FSCF	FSCFG(12 / 5)	0
	Fix	54	PLL	PLLFG(12 / 4)	1

SERVICE DATA LISTS

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
3D_COMB	Fix	55	KILR	KILR(12 / 0-3)	3
	Fix	56	HSSL	HSSL(13 / 4-7)	12
	Fix	57	VSSL	VSSL(13 / 0-3)	8
	Fix	58	BGPS	BGPS(14 / 4-7)	4
	Fix	59	BGPW	BGPW(14 / 0-3)	10
	Fix	60	ADCL	ADCLKS(15 / 6-7)	3
	Fix	61	NSDW	NSDSW(15 / 4)	1
	Fix	62	HIZE	HIZEN (16 / 4)	0
	Fix	63	HCNT	HCNTFSYN (17 / 6)	0

Service Group	Fix/ Var	No.	Name	Description	Common Init Data
PIP	Fix	0	PFRN	VCXO oscillation	0
	Fix	1	PRVS	HD/VD input synchronous mode selection	1
	Fix	2	PCON	PIP sub contrast control	97
	Fix	3	PUCO	PIP U level control	5
	Fix	4	PVCO	PIP V level control	17
	Fix	5	PHUE	PIP sub hue control	12
	Fix	6	PKIL	Color killer	0
	Fix	7	PSEP	C-sync sep input selection	1
	Fix	8	PDCN	Sub pic sync sep. Threshold setting	3
	Fix	9	PBGS	bgp position setting	15
	Fix	10	PDL0	Y/C delay adjust (for video)	11
	Fix	11	PDL1	Y/C delay adjust (for yuv)	13
	Fix	12	PBRT	Y brightness control	25
	Fix	13	PVP1	V pedestal level for YUV	0
	Fix	14	PUP1	U pedestal level for YUV	0
	Fix	15	PVP2	V pedestal level for main w/ burst	0
	Fix	16	PUP2	U pedestal level for main w/ burst	0
	Fix	17	PVP3	V pedestal level for main w/o burst	0
	Fix	18	PUP3	U pedestal level for main w/o burst	0
	Fix	19	PACS	0D, 0Eh setting mode	1
	Fix	20	PSYS	Color system	=
	Fix	21	PSDL	Sync delay control	0
	Fix	22	PCCL	YUV color level	11
	Fix	23	PCGA	Croma gain	1
	Fix	24	PAAF	Auto AFC	1
	Fix	25	PSU2	For test	0
	Fix	26	PCVF	Internal 1H comb filter	0
	Fix	27	PBIT	Y clamp time constant	0
	Fix	28	PAFC	AFC time constant	0
	Fix	29	PACC	Color decoder amplitude	21
	Fix	30	PSDT	System automatic judgment	=
	Fix	31	PBUR	VCXO mode selection	0
	Fix	32	PEVE	Main picture PAL-N	0
	Fix	33	PINW	Invert sub picture field definition	0
	Fix	34	PINR	Invert main picture field definition	0
	Fix	35	PVMD	Vertical display mode when pal-n	=
	Fix	36	PREF	Main picture field fix	0
	Fix	37	PARE	Automatic 50/60 Hz judgment	0
	Fix	38	PBWD	BW det. Threshold setting	1
	Fix	39	PFRA	Freq. Adjustment for free run mode	0

SERVICE DATA LISTS

Service Group	Fix/Var	No.	Name	Description	Common Init Data
P.P	Fix	40	PPAL	Parameter setting for PAL-M judgment	52
	Var	41	PHPO	Sub picture h position	
	Fix	42	PVPO	Sub picture v position	22
	Fix	43	PHTI	Display timing adjust	6
	Fix	44	PHAJ	Main/Sub switch delay control	2
	Fix	45	PBGY	Back ground Y level setting	0
	Fix	46	PCRO	Sub picture read mode	0
	Fix	47	PPAR	Threshold control for ident judgment of sub	1
	Fix	48	PHPF	Y output HPF	0
	Fix	49	PFSC	FSC output	0
	Fix	50	PVCH	15h,16h,17h, setting mode	0
	Fix	51	PVON	V-chip decode mode	1
	Fix	52	PVLN	V-chip data slicer line selection	17
	Fix	53	PVSB	V-chip data slicer start bit detection parameter	64
	Fix	54	PVLV	V-chip data slicer slice parameter	130
	Fix	55	SUSW	Sub-Unlock bit position switch	0
	Fix	56	PDL5	YDL by when PALN system	0
	Fix	57	PHT5	HT by when PALN system	15

Service Group	Fix/Var	No.	Name	Description	27FV Init Data	32/36FV Init Data
A.P	Fix	0	SBAL	Sub Balance	4	4
	Fix	1	SBAS	Sub Bass	2	0
	Fix	2	STRE	Sub Treble	0	0
	Fix	3	SRL	Surround level	0	0
	Fix	4	BBOH	Surround Off - BBE high	6	6
	Fix	5	BBOL	Surround Off - BBE low	8	10
	Fix	6	BBSH	Simulated - BBE high	3	3
	Fix	7	BBSL	Simulated - BBE low	4	4
	Fix	8	BBMH	da	0	0
	Fix	9	BBML	Surround - BBE low	0	0
	Fix	10	BBGH	WOW - BBE high	7	7
	Fix	11	BBGL	WOW - BBE low	9	12
	Fix	12	BBTH	Trusurround - BBE high	5	6
	Fix	13	BBTL	Trusurround - BBE low	9	12
	Fix	14	VFIX	Audio output fix data	255	255
	Fix	15	AGCL	AGC Level	2	2
	Fix	16	BTAB	Bass/Treble curve selection	1	1

SERVICE DATA LISTS

Service Group	Fix/Var	No.	Name	Description	Common Init Data
CCD	Fix	0	DUM0	Only for testing	=
	Fix	1	VOSD	Only for testing	=

Service Group	Fix/Var	No.	Name	Description	Common Init Data
O	Var	0	DISP	OSD Display position	
	Fix	1	RAMW		=
	Fix	2	ICMP	Comparison data to determine Non-interlace signal for OSD	4
	Fix	3	IPOR	0:Even, 1: Odd, Other: do not change	1
	Fix	4	FAWD	1: Forced to auto wide mode, 0:normal	0
	Fix	5	HCLW	H-Count Lower limit	67
	Fix	6	HCHG	H-Count Higher limit	254
	Fix	7	9VTM	Delay for 9V check subsystem	55
	Fix	8	ZDET	Zero detect relay delay	123

Service Group	Fix/Var	No.	Name	Description	Common Init Data
ID	Fix	0	ID0	Model variation ID0	SEE ID MAP
	Fix	1	ID1	Model variation ID1	SEE ID MAP
	Fix	2	ID2	Model variation ID2	SEE ID MAP
	Fix	3	ID3	Model variation ID3	SEE ID MAP
	Fix	4	ID4	Model variation ID4	SEE ID MAP
	Fix	5	ID5	Model variation ID5	SEE ID MAP
	Fix	6	ID6	Model variation ID6	SEE ID MAP
	Fix	7	ID7	Model variation ID7	SEE ID MAP

4-5. ID MAP TABLE

Model	Destination	ID-O	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
KV-27FV310	USA	89	191	237	98	78	192	6	17
KV-27FV310	CND	89	191	237	82	78	192	6	17
KV-29FV310	LATIN NORTH	81	191	237	194	110	192	6	81
KV-29FV310	LATIN SOUTH	81	191	237	194	110	192	6	81
KV-32FV310	USA	89	191	237	98	78	192	6	17
KV-32FV310	CND	89	191	237	82	78	192	6	17
KV-36FV310	USA	89	191	237	98	78	192	6	17
KV-36FV310	CND	89	191	237	82	78	192	6	17
KV-36FV310	HAWAII	89	191	237	98	78	192	6	17

4-6. A BOARD ADJUSTMENTS

H. FREQUENCY (FREE RUN) CHECK

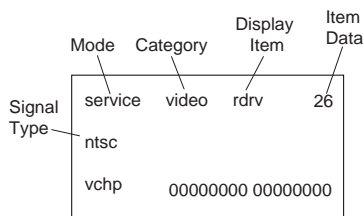
1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q501 (TP-25 H. DRIVE) on the A Board.
3. Check H. Frequency for $15734 \pm 400/-200$ Hz.

V. FREQUENCY (FREE RUN) CHECK

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-27 (V OUT) or CN501 pin ⑥ (V DY+) and ground on the A Board .
4. Check that V. Frequency shows 60 ± 4 Hz.

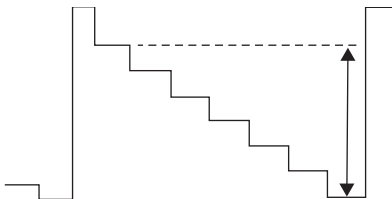
SUBCONTRAST ADJUSTMENT (RDRV)

1. Input a color-bar signal and set the level to 75%.
2. Set in Pro mode.
3. Activate the Service Adjustment Mode.
4. Set GON and BON items. Using ③ and ⑥ set each to the following values. Leave RON set to "1".



R ON: ON (1)
G ON: OFF (0)
B ON: OFF (0)

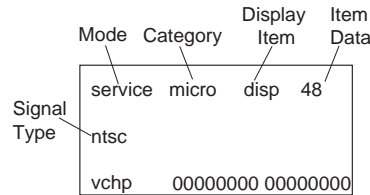
5. Select SCON with ① and ④ .
6. Connect an oscilloscope probe to C Board, CN705 Pin③ Blue Out.
7. Adjust the value of SCON with ③ and ⑥ for 1.90 ± 0.01 Vpp.



8. Reset GON and BON values to "1".
R ON: ON (1)
G ON: ON (1)
B ON: ON (1)
9. Press [MUTING] then [ENTER] to save into the memory.
10. After adjusting SCON, if still out of xpec, use RDRV resistor as a fine adjustment.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service Adjustment Mode.
3. Select DISP with ① and ④ .
4. Adjust values of DISP with ③ and ⑥ to adjust characters to the center.
5. Write to memory by pressing [MUTING] then [ENTER] .
6. Check to see if the text is displayed on the screen.



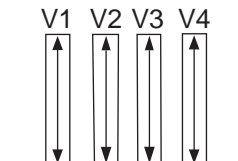
SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Select the SBRT item with ① and ④ .
5. Adjust the values of SBRT with ③ and ⑥ to obtain a faintly visible crosshatch.
6. Press [MUTING] then [ENTER] to save into the memory.

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

[RF], [VIDEO] [VIDEO MODE PRO]

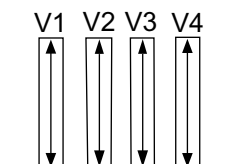
1. Input color-bar signal at 75%.
2. Set screen to Pro Mode.
3. Activate the Service Adjustment Mode.
4. Set (PIC) to 100% and (COL) to 50%.
5. Connect an oscilloscope probe to C Board, CN705 Pin ④ Blue Out.
6. Select the SHUE and SCOL item with ① and ④ .
7. While showing the SHUE item, adjust the waveform with ① and ④ until the second and third bars show the same level ($V2 = V3 \pm 0.2$ Vpp).
8. While showing the SCOL item, adjust the waveform with ③ and ⑥ until the first and fourth bars show the same level ($V1 = V4 \pm 0.2$ Vpp).
9. For Trinorma models inspect each system NTSC, PAL M & N.



10. Press [MUTING] then [ENTER] to save into the memory.

[YUV] [VIDEO MODE PRO]

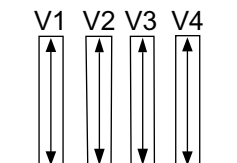
1. Input color-bar signal at 75%.
2. Set screen to Pro Mode.
3. Activate the Service Adjustment Mode.
4. Set (PIC) to 100% and (COL) to 50%.
5. Connect an oscilloscope probe to C Board, CN705 Pin ④ Blue Out.
6. Select the SHUE and SCOL item with **[1]** and **[4]**.
7. While showing the SHUE item, adjust the waveform with **[1]** and **[4]** until the second and third bars show the same level ($V2 = V3 \pm 0.2V_{pp}$).
8. While showing the SCOL item, adjust the waveform with **[3]** and **[6]** until the first and fourth bars show the same level ($V1 = V4 \pm 0.2V_{pp}$).



9. Press **[MUTING]** then **[ENTER]** to save into the memory.

[YUV] [VIDEO MODE VIVID]

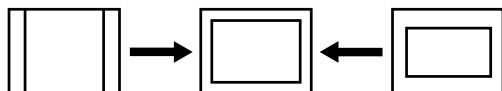
1. Input color-bar signal at 75%.
2. Set screen to Vivid Mode.
3. Activate the Service Adjustment Mode.
4. Set (PIC) to 100% and (COL) to 50%.
5. Connect an oscilloscope probe to C Board, CN705 Pin ④ Blue Out.
6. Select the SHUE and SCOL item with **[1]** and **[4]**.
7. While showing the SHUE item, adjust the waveform with **[1]** and **[4]** until the second and third bars show the same level ($V2 = V3 \pm 0.2V_{pp}$).
8. While showing the SCOL item, adjust the waveform with **[3]** and **[6]** until the first and fourth bars show the same level ($V1 = V4 \pm 0.2V_{pp}$).



9. Press **[MUTING]** then **[ENTER]** to save into the memory.

V. SIZE ADJUSTMENT (VSIZ)

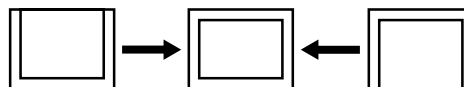
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VSIZ item with **[1]** and **[4]**.
4. Adjust value of VPOS with **[1]** and **[4]** for the best vertical center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



V. CENTER ADJUSTMENT (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

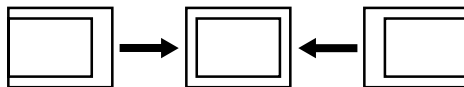
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VPOS item with **[1]** and **[4]**.
4. Adjust value of VPOS with **[3]** and **[6]** for the best vertical center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



H. CENTER ADJUSTMENT (HPOS)

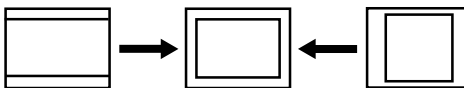
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with **[1]** and **[4]**.
4. Adjust the value of HPOS with **[3]** and **[6]** for the best horizontal center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



H. SIZE ADJUSTMENT (HSIZ)

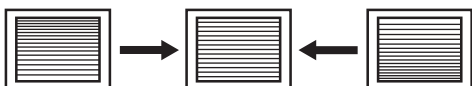
1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select HSIZ with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best horizontal size.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



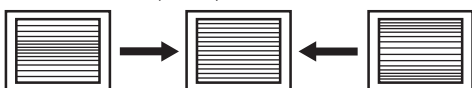
V. LINEARITY (VLIN), V. CORRECTION (SCOR), PIN AMP (PAMP), AND HORIZONTAL TRAPEZOID (HTRP) ADJUSTMENTS

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VLIN, SCOR, PAMP, and HTRP with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best horizontal size.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.

V LINEARITY (VLIN)



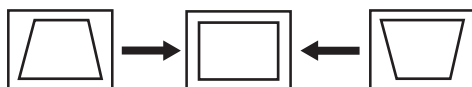
V CORRECTION (SCOR)



PIN AMP (PAMP)



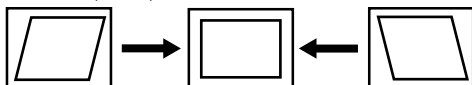
HORIZONTAL TRAPEZOID (HTRP)



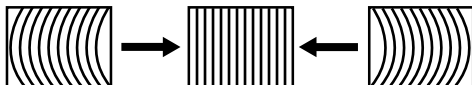
V. ANGLE (VANG), V. BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VANG, VBOW, UPIN, and LPIN with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best picture.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.

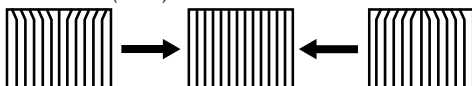
V ANGLE (VANG)



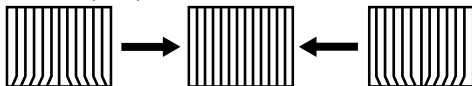
V BOW (VBOW)



UPPER PIN (UPIN)



LOW PIN (LPIN)



SERVICE ADJUSTMENT MODE MEMORY

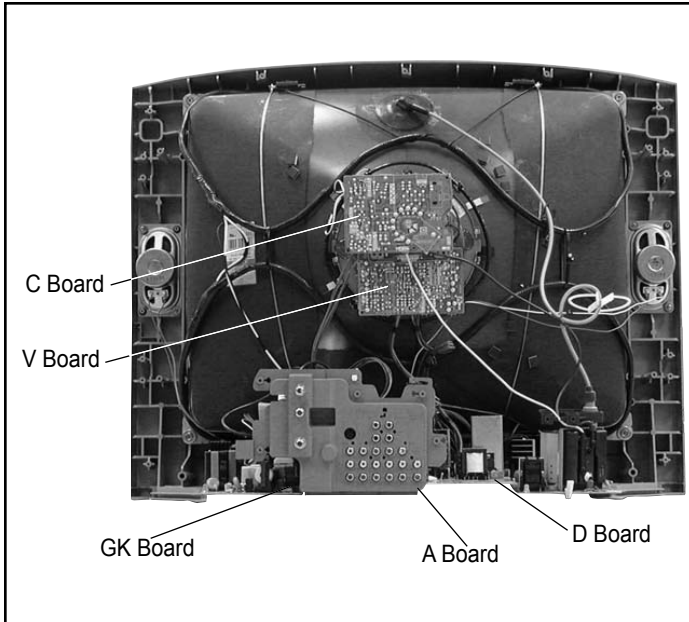
1. After completing all adjustments, press **[0]** then **[ENTER]**.

Read From Memory

	Mode	Category	Display Item	Item Data
Signal	service	defl	vbow	7
Type	ntsc			
	vchp	00000000	00000000	

SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM INFORMATION

All capacitors are in μF unless otherwise noted. pF : μF 50V or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. $k\Omega=1000\Omega$, $M\Omega=1000k\Omega$

Indication of resistance, which does not have one for rating electrical power, is as follows:

Pitch : 5mm

Rating electrical power : $\frac{1}{4}$ W

$\frac{1}{4}$ W in resistance, $\frac{1}{10}$ W and $\frac{1}{8}$ W in chip resistance.

: nonflammable resistor

: fusible resistor

: internal component

: panel designation and adjustment for repair

: earth ground

: earth-chassis

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10M Ω digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibility.

: B+line

: B-line (Actual measured value may be different).

: signal path (RF)

Circled numbers are waveform references.

The components identified by shading and are critical for safety. Replace only with part number specified.

The symbol indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole indique une fusible à action rapide. Doit être remplacé par une fusible de même valeur, comme marqué.

The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.

When replacing components identified by , make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to Section 3: Safety Related Adjustments on Page 16.)

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced ()	Adjustment ()
D BOARD: D8022, IC8001, IC8004, IC8005, IC8104, R8014, R8015, R8016, R8017, R8019, R8021, R8046, R8052, R8072, R8078, R8079, R8082, R8091, R8095 GK BOARD: IC601	HV HOLD DOWN RV8002

REFERENCE INFORMATION

RESISTOR

: RN METAL FILM

: RC SOLID

: FPRD NONFLAMMABLE CARBON

: FUSE NONFLAMMABLE FUSIBLE

: RW NONFLAMMABLE WIREWOUND

: RS NONFLAMMABLE METAL OXIDE

: RB NONFLAMMABLE CEMENT

: ADJUSTMENT RESISTOR

COIL

: LF-8L MICRO INDUCTOR

CAPACITOR

: TA TANTALUM

: PS STYROL

: PP POLYPROPYLENE

: PT MYLAR

: MPS METALIZED POLYESTER

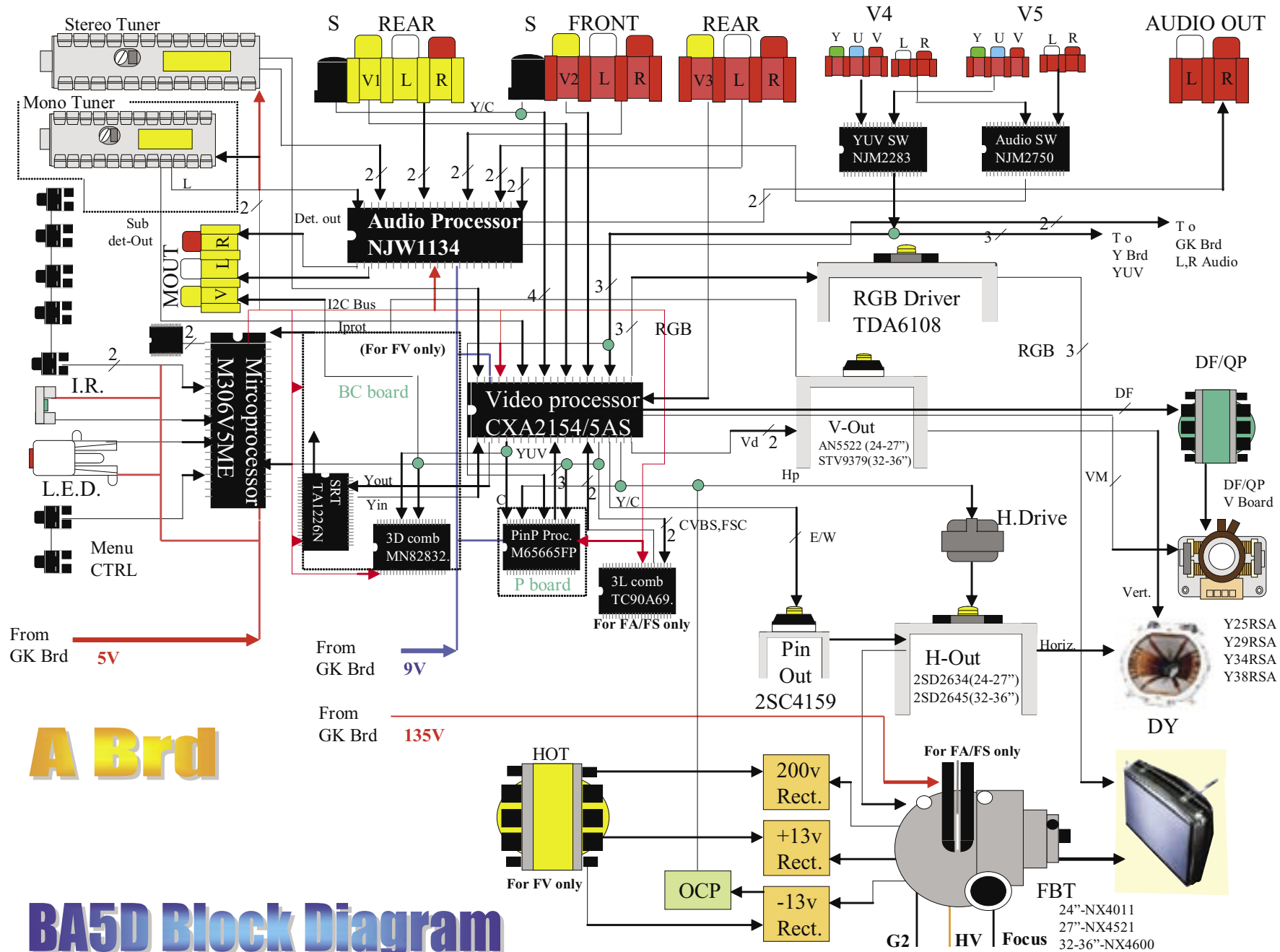
: MPP METALIZED POLYPROPYLENE

: ALB BIPOLAR

: ALT HIGH TEMPERATURE

: ALR HIGH RIPPLE

5-3. BLOCK DIAGRAM (PAGE 1 OF 4)

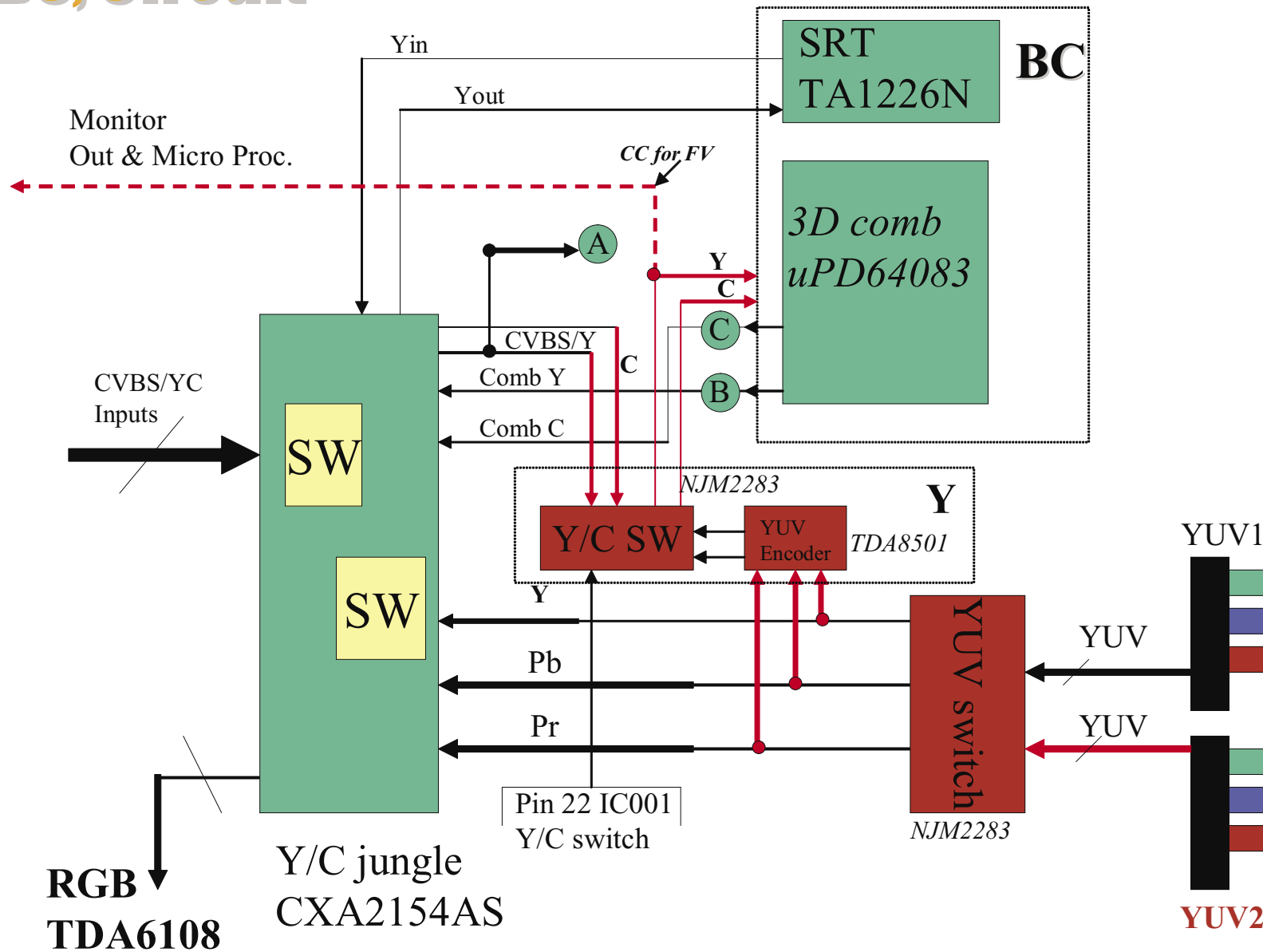


A Brd

BA5D Block Diagram

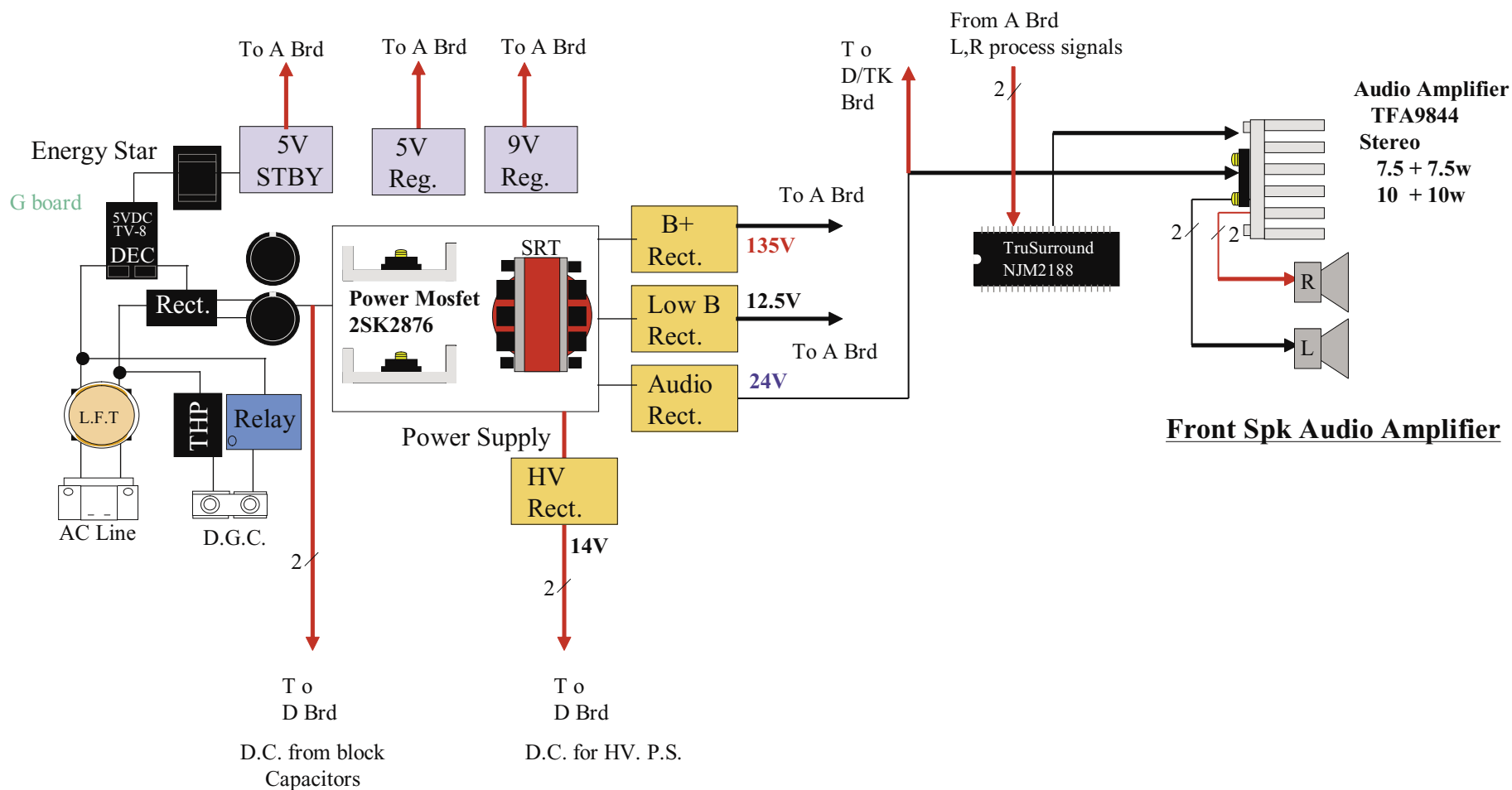
BLOCK DIAGRAM (PAGE 2 OF 4)

BC, Circuit



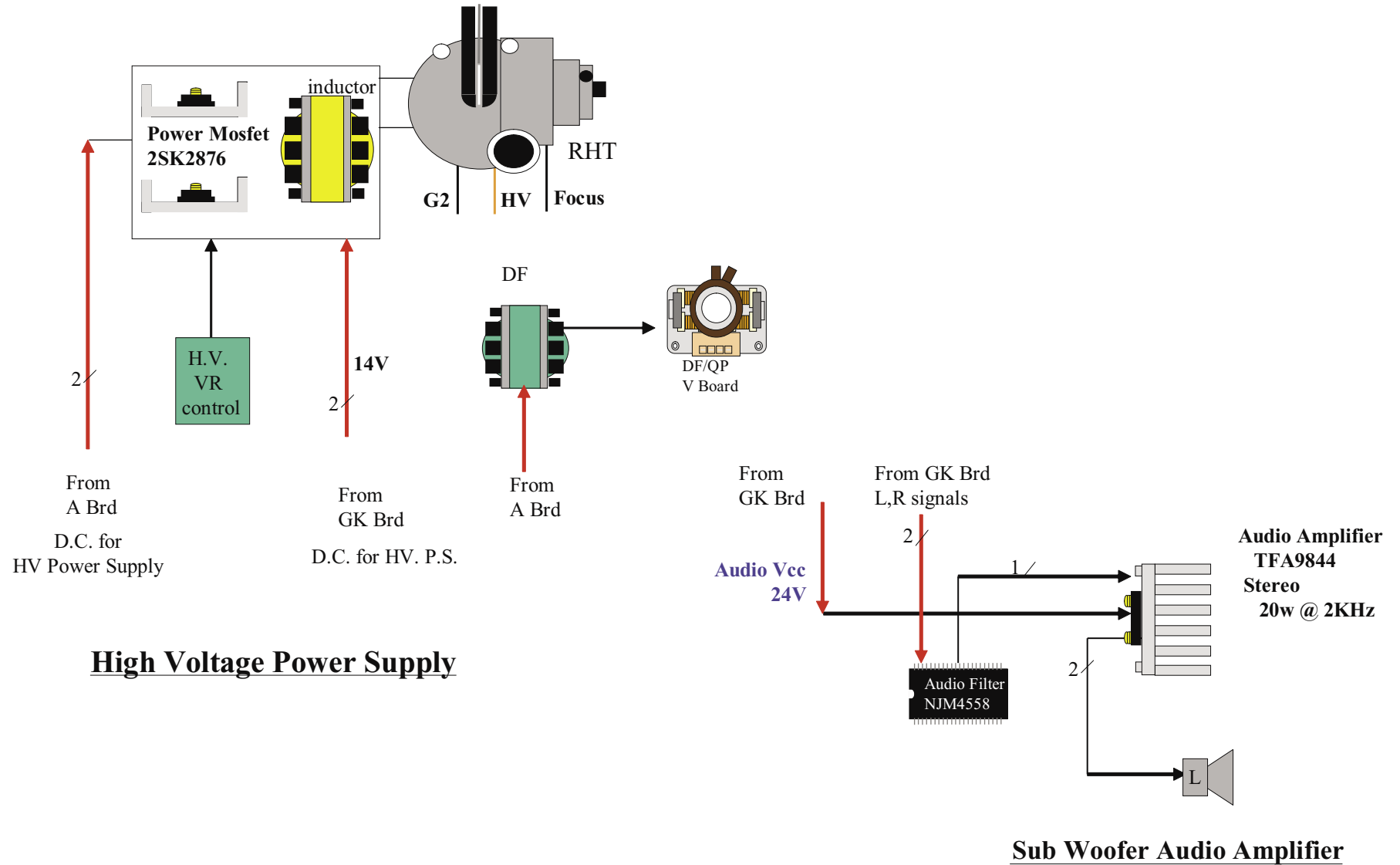
BLOCK DIAGRAM (PAGE 3 OF 4)

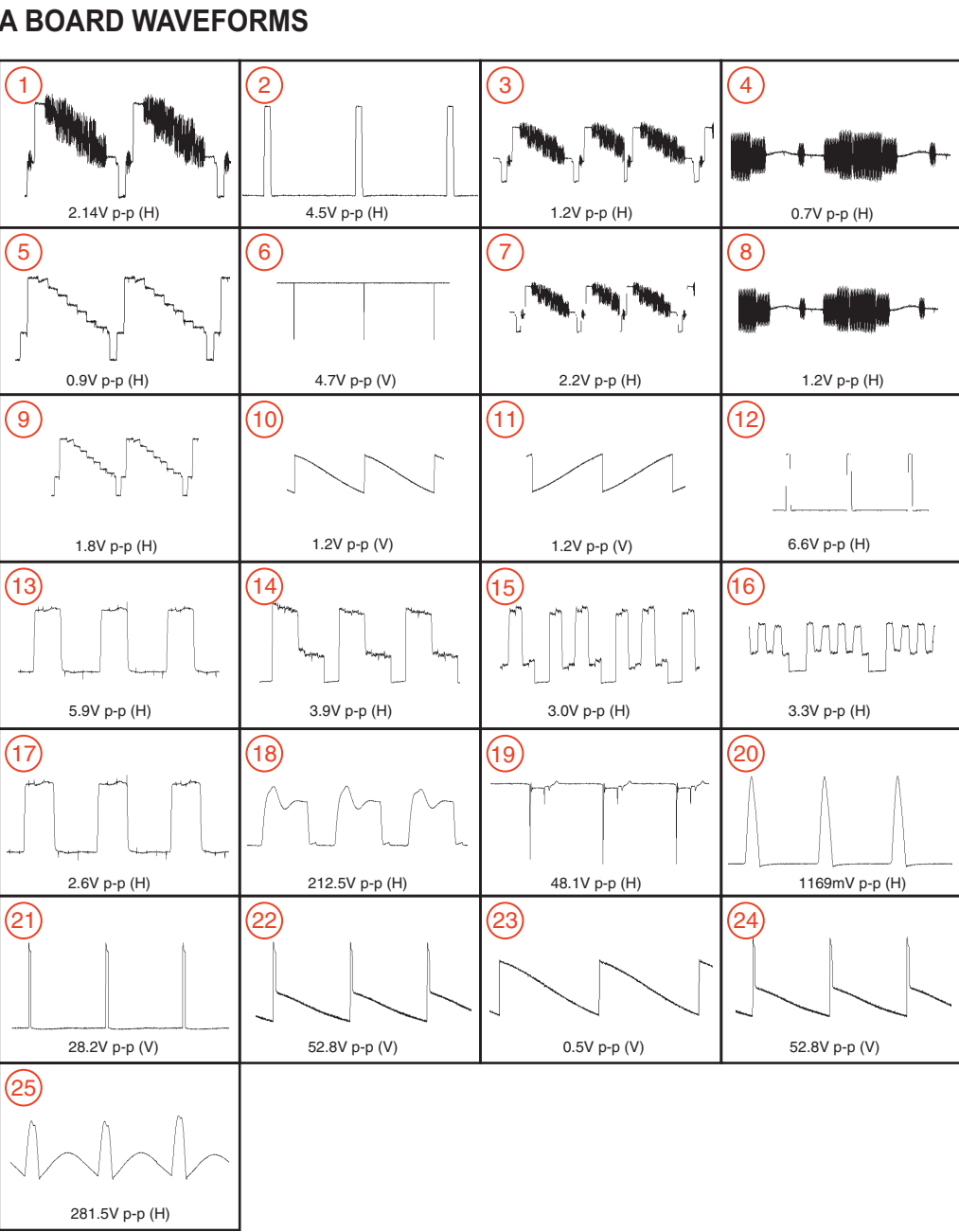
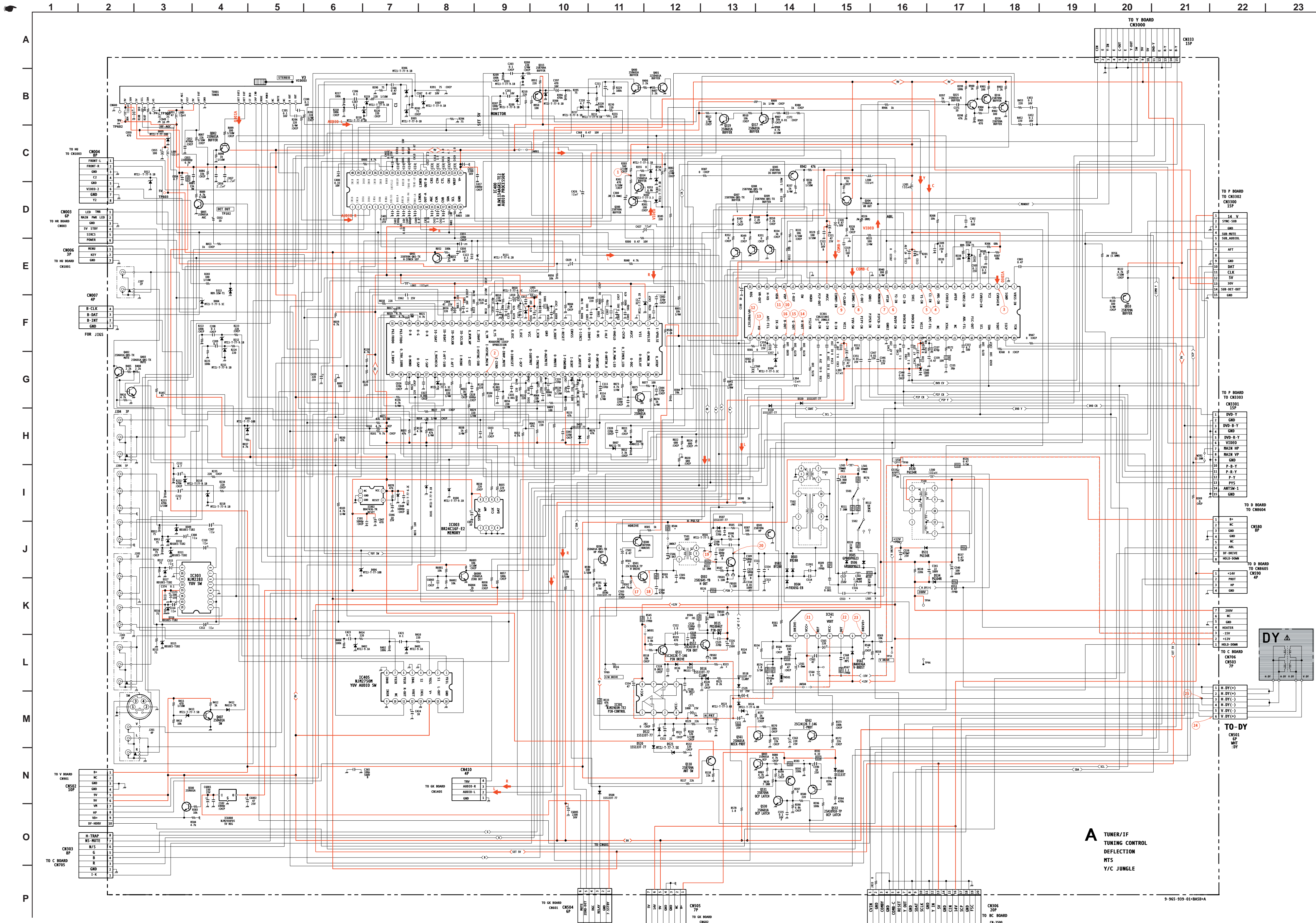
GK Board



BLOCK DIAGRAM (PAGE 4 OF 4)

D Board





A
TUNER/IF
TUNING CONTROL
DEFLECTION
MTS
Y/C JUNGLE

A BOARD IC VOLTAGE LIST

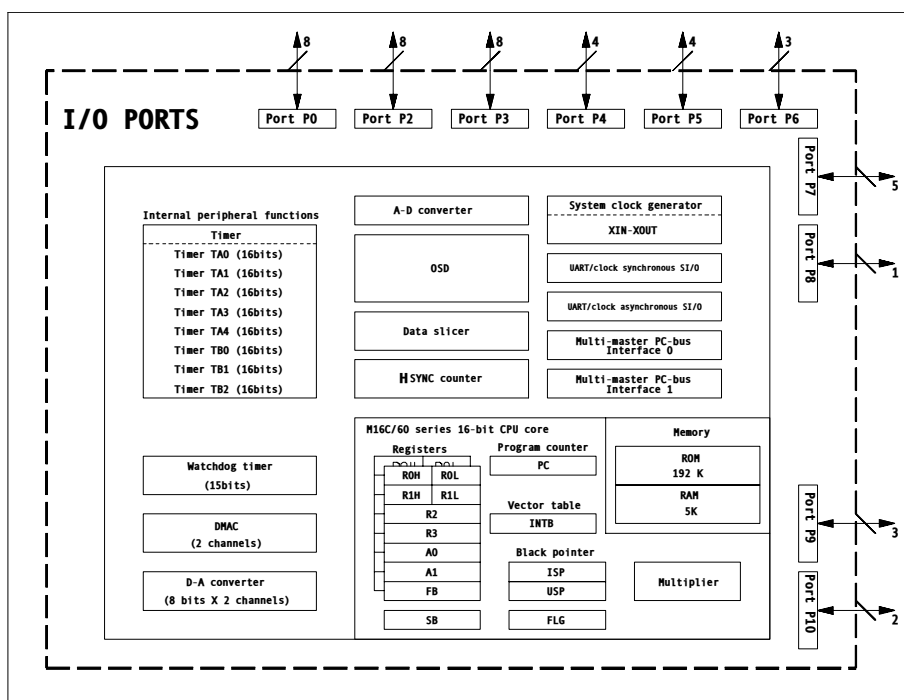
IC001		41	5.0	IC301		41	4.6	IC400		5	2.3
PIN	VOLT	42	5.0	PIN	VOLT	42	4.6	PIN	VOLT	6	2.5
1	4.9	43	0.2	1	5.0	43	4.6	1	4.5	7	-13.5
2	0.6	44	0.6	2	GND	44	9.0	2	4.5	8	12.0
3	GND	45	1.2	3	5.0	45	0.1	3	4.5	IC561	
4	5.0	46	4.8	4	5.0	46	4.3	4	4.5	PIN	VOLT
5	0.2	47	4.8	5	4.8	47	5.2	5	4.5	1	1.5
6	1.7	48	0.0	6	5.0	48	5.2	6	4.5	2	12.0
7	1.4	49	0.1	7	4.8	49	GND	7	4.5	3	-12.0
8	0.5	50	4.4	8	3.4	50	4.8	8	4.5	4	-15.0
9	0.0	51	5.0	9	5.2	51	5.2	9	4.5	5	0.3
10	5.0	52	0.1	10	1.9	52	5.2	10	4.5	6	14.2
11	GND	53	0.0	11	0.0	53	9.1	11	4.5	7	1.4
12	5.0	54	4.8	12	4.8	54	5.3	12	4.5	IC6008	
13	2.3	55	0.1	13	9.0	55	N/C	13	4.5	PIN	VOLT
14	GND	56	0.0	14	0.0	56	1.7	14	4.5	I	7.5
15	2.1	57	4.8	15	4.8	57	N/C	15	0.6	O	5.0
16	5.0	58	N/C	16	4.9	58	6.9	16	1.7	G	GND
17	2.6	59	N/C	17	4.4	59	N/C	IC405		All voltages are in V.	
18	2.6	60	0.0	18	0.0	60	4.7	PIN	VOLT		
19	0.3	61	0.1	19	3.8	61	4.7	1	4.5		
20	0.0	62	4.6	20	5.5	62	4.7	2	0.0		
21	2.1	63	0.1	21	3.6	63	1.1	3	4.5		
22	5.0	64	N/C	22	5.8	64	5.1	4	GND		
23	5.0	IC002		23	9.0	IC303		5	GND		
24	5.0	PIN	VOLT	24	4.4	PIN	VOLT	6	4.5		
25	5.0	1	N/C	25	0.0	1	4.5	7	4.5		
26	5.0	2	GND	26	4.1	2	4.0	8	GND		
27	5.0	3	GND	27	2.4	3	3.0	9	GND		
28	0.0	4	5.0	28	3.5	4	GND	10	N/C		
29	0.0	5	5.0	29	3.5	5	4.0	11	4.5		
30	0.0	IC003		30	5.9	6	4.0	12	4.5		
31	N/C	PIN	VOLT	31	5.5	7	0.0	13	GND		
32	N/C	1	GND	32	7.6	8	4.5	14	9.0		
33	4.8	2	GND	33	3.6	9	4.5	15	4.5		
34	0.0	3	GND	34	2.8	10	GND	16	GND		
35	0.0	4	GND	35	2.5	11	4.5	IC501			
36	0.0	5	5.0	36	3.9	12	0.0	PIN	VOLT		
37	0.0	6	5.0	37	1.5	13	9V	1	-13.3		
38	4.2	7	0.0	38	1.6	14	4.5	2	8.2		
39	1.7	8	5.0	39	1.5	15	GND	3	7.2		
40	2.6			40	0.0	16	4.5	4	-15.0		

A BOARD TRANSISTOR VOLTAGE LIST

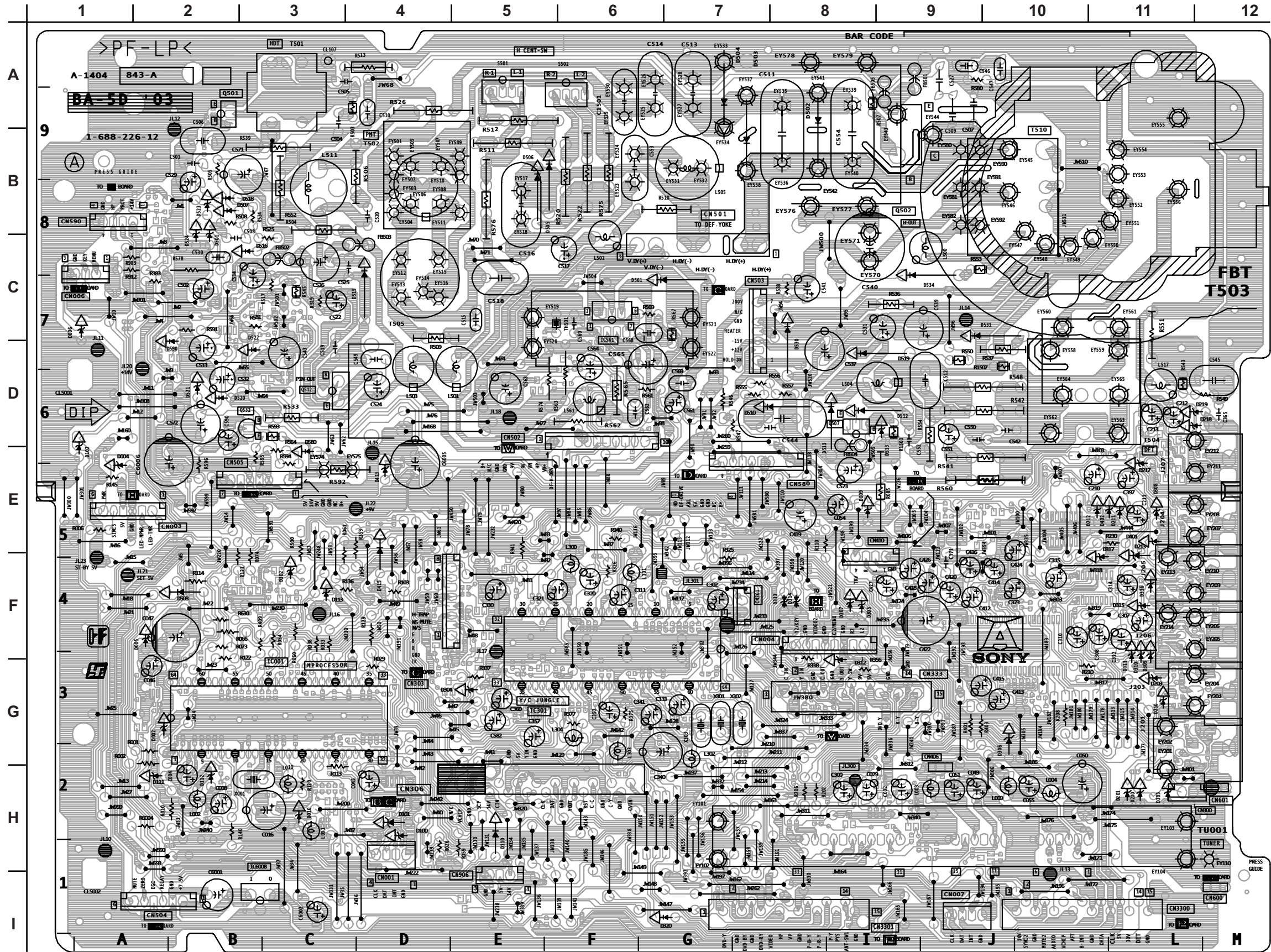
	B	C	E		B	C	E
Q001	0.0	0.4	5.0	Q400	0.0	0.0	GND
Q002	4.4	9.0	3.8	Q401	0.0	0.0	GND
Q003	0.7	0.0	GND	Q402	0.0	0.0	GND
Q004	0.0	4.3	GND	Q403	0.0	0.0	GND
Q005	0.1	4.9	GND	Q407	0.7	0.0	GND
Q010	4.3	GND	4.9	Q500	3.5	9.0	2.9
Q110	4.8	0.0	5.0	Q501	0.0	123.6	GND
Q300	4.6	GND	5.2	Q502	0.0	131.8	0.0
Q304	5.0	9.0	4.4	Q511	-13.5	-8.4	-15.0
Q305	5.0	0.0	3.4	Q512	-14.9	-2.0	-15.0
Q307	1.5	GND	2.2	Q530	0.0	4.4	GND
Q308	1.5	GND	2.2	Q531	4.4	0.0	4.4
Q309	1.5	GND	2.2	Q532	133.6	0.0	133.8
Q314	0.0	3.4	GND	Q561	0.0	4.4	GND
Q315	3.4	GND	4.1	Q562	0.0	0.0	GND
Q316	6.4	2.7	7.1	Q580	5.0	GND	0
Q317	0.0	3.9	GND	Q581	0.0	GND	0
Q319	0.6	0.6	GND	Q590	0.0	3.6	GND
Q325	2.6	6.4	1.9	Q6000	0.6	1.2	GND
Q326	2.7	GND	3.4				

All voltages are in V.

IC001 BLOCK DIAGRAM



COMPONENT SIDE [TUNING CONTROL, DEFLECTION, TUNER/IF, Y/C JUNGLE, MTS]



A

B

C

D

E

F

G

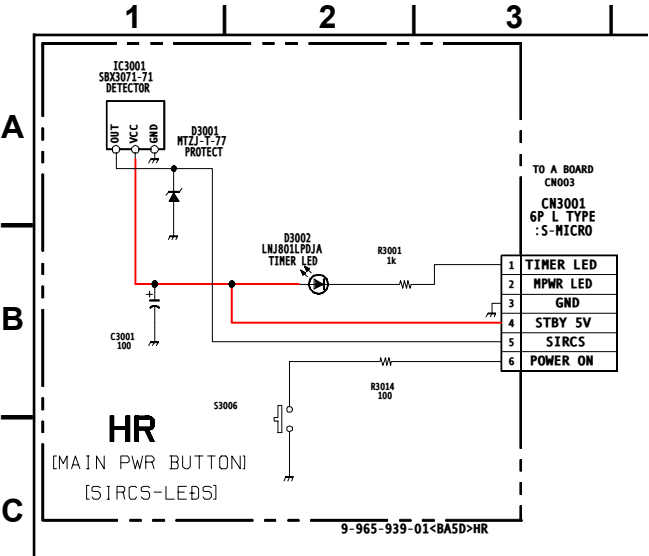
H

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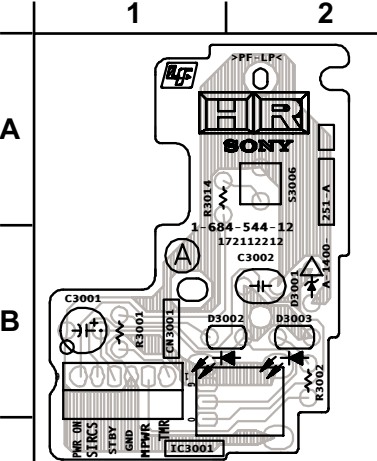


— 38 —

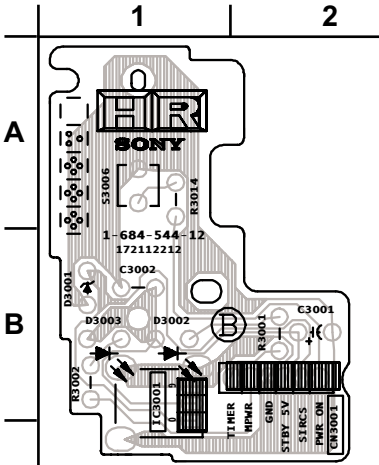
HR BOARD SCHEMATIC DIAGRAM

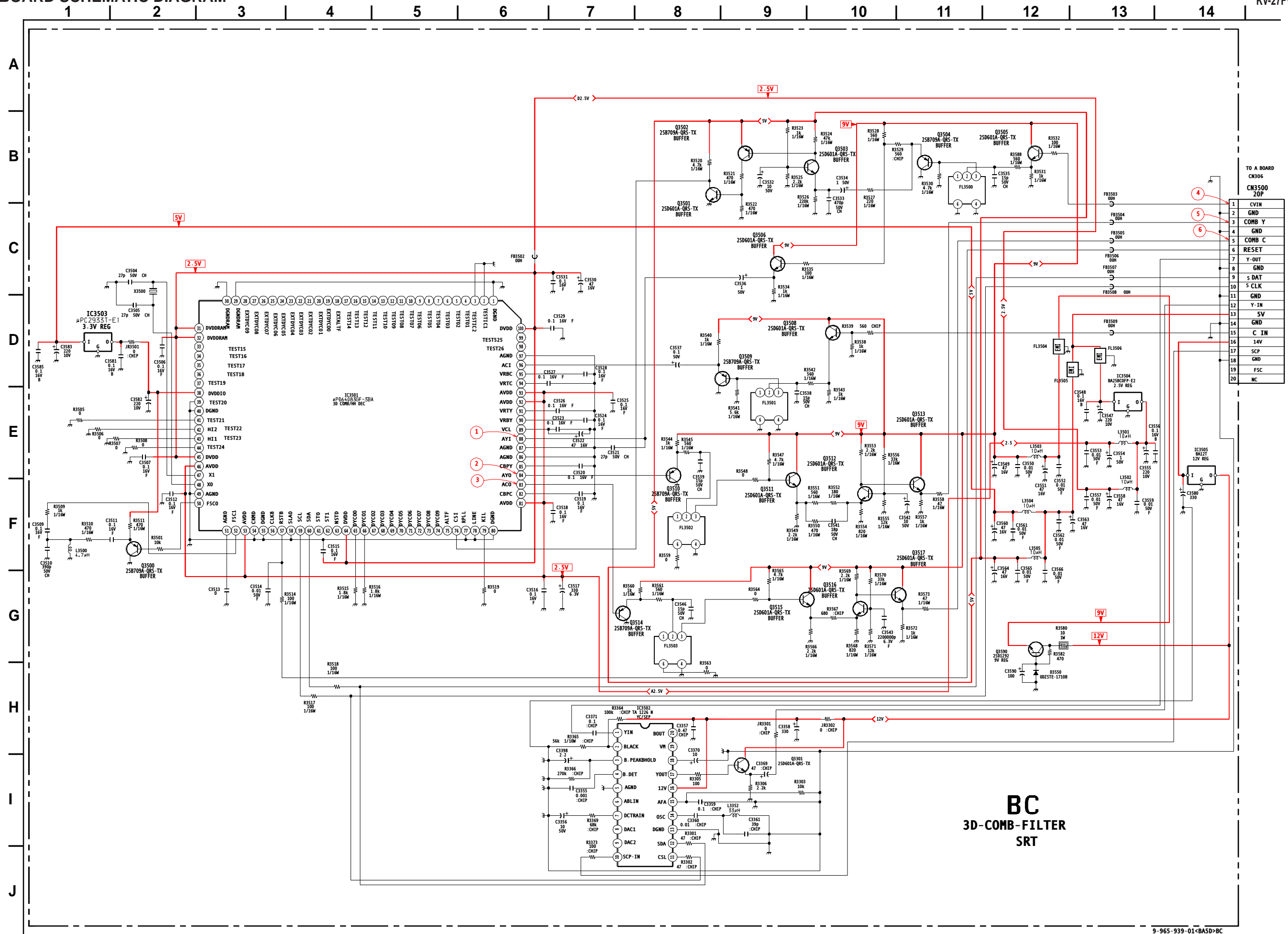


HR COMPONENT SIDE [MAIN POWER BUTTON]



HR COMPONENT SIDE [MAIN POWER BUTTON]





BC BOARD IC VOLTAGE LIST

IC3501		27	N/C	55	GND	83	1.4	9	N/C
PIN	VOLT	28	N/C	56	N/C	84	1.4	10	1.2
1	GND	29	GND	57	4.8	85	1.1	11	4.7
2	GND	30	GND	58	GND	86	GND	12	4.7
3	GND	31	2.5	59	4.7	87	0.0	13	0.0
4	N/C	32	2.5	60	4.7	88	1.1	14	11.5
5	N/C	33	N/C	61	N/C	89	0.7	15	4.8
6	N/C	34	N/C	62	N/C	90	0.7	16	12.0
7	N/C	35	N/C	63	N/C	91	1.3	17	0.0
8	N/C	36	N/C	64	2.5	92	2.5	18	0.5
9	N/C	37	N/C	65	0.0	93	2.5	19	N/C
10	N/C	38	3.3	66	0.0	94	0.0	20	N/C
11	N/C	39	GND	67	N/C	95	0.0	IC3503	
12	N/C	40	GND	68	N/C	96	1.1	PIN	VOLT
13	N/C	41	GND	69	N/C	97	GND	I	5.0
14	N/C	42	GND	70	N/C	98	N/C	O	3.3
15	N/C	43	GND	71	N/C	99	N/C	G	GND
16	N/C	44	GND	72	N/C	100	2.5	IC3504	
17	N/C	45	2.5	73	N/C	IC3502		PIN	VOLT
18	N/C	46	2.5	74	N/C	PIN	VOLT	I	5.0
19	N/C	47	1.3	75	N/C	1	4.7	O	2.5
20	N/C	48	1.0	76	4.2	2	3.8	G	GND
21	N/C	49	GND	77	GND	3	3.9	IC3505	
22	N/C	50	1.4	78	GND	4	4.7	PIN	VOLT
23	N/C	51	GND	79	GND	5	GND	I	14.0
24	N/C	52	1.3	80	GND	6	N/C	O	12.0
25	N/C	53	2.5	81	2.5	7	4.8	G	GND
26	N/C	54	GND	82	1.1	8	N/C		

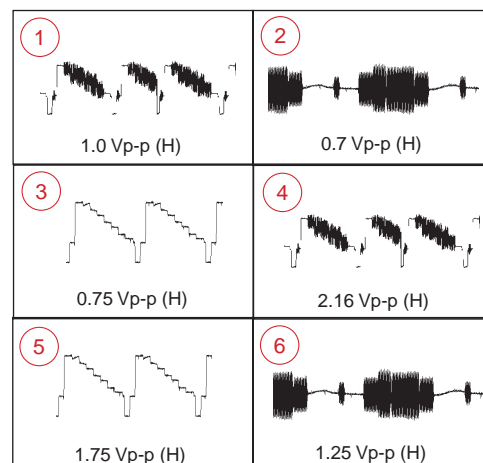
All voltages are in V.

BC BOARD TRANSISTOR VOLTAGE LIST

	B	C	E		B	C	E
Q3500	1.4	GND	2.1	Q3510	2.1	GND	1.4
Q3501	4.7	4.2	GND	Q3511	2.3	9.0	2.9
Q3502	4.7	0.5	5.0	Q3512	2.5	5.7	1.9
Q3503	3.3	4.7	3.5	Q3513	5.7	9.0	5.0
Q3504	3.3	GND	4.0	Q3514	1.4	GND	2.1
Q3505	4.3	9.0	3.7	Q3515	2.9	9.0	2.3
Q3506	6.2	9.0	5.6	Q3516	2.5	6.0	1.9
Q3508	2.4	9.0	1.8	Q3517	6.0	9.0	5.4
Q3509	1.7	GND	2.3	Q3590	10.2	11.3	9.0

All voltages are in V.

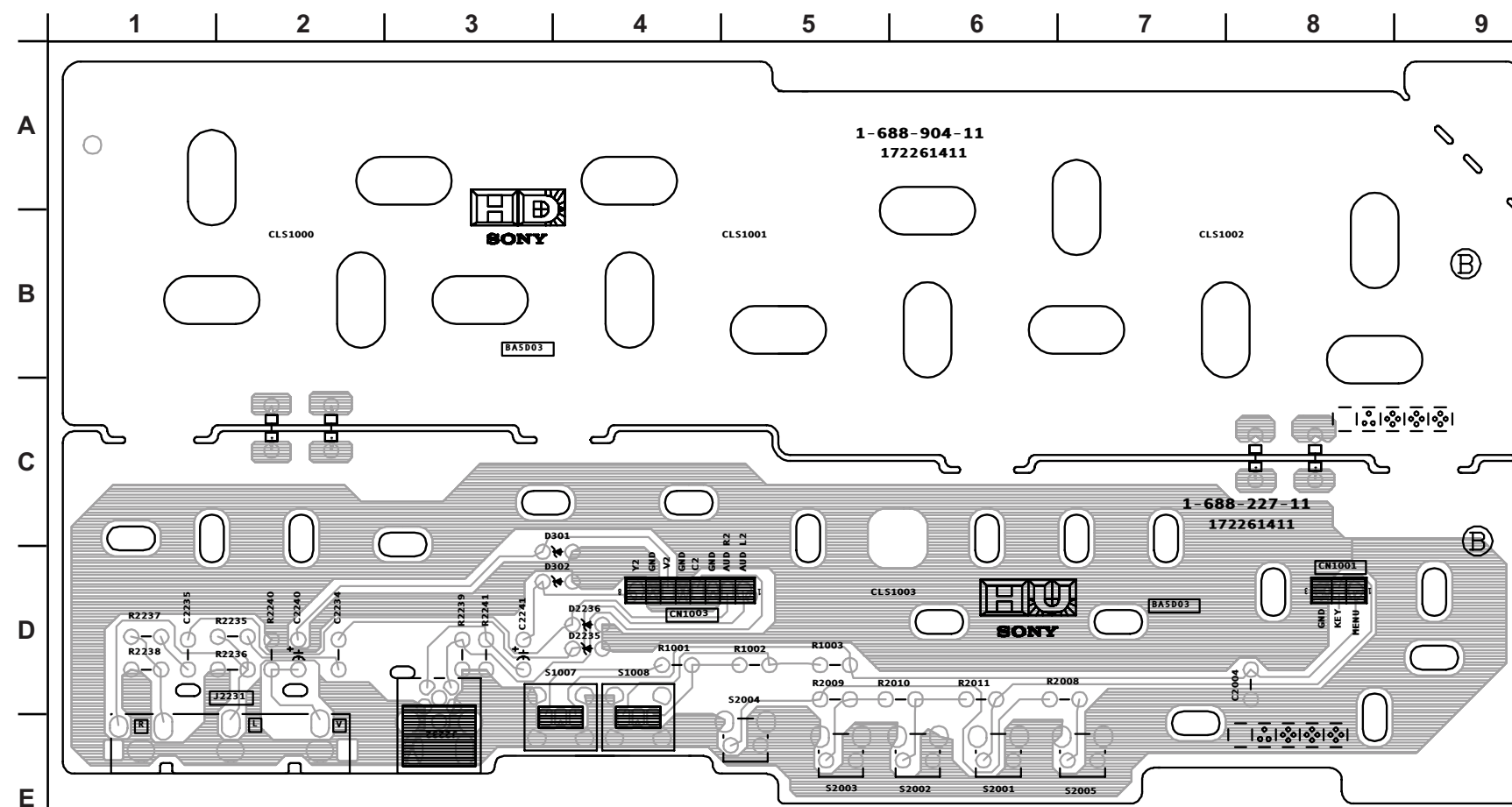
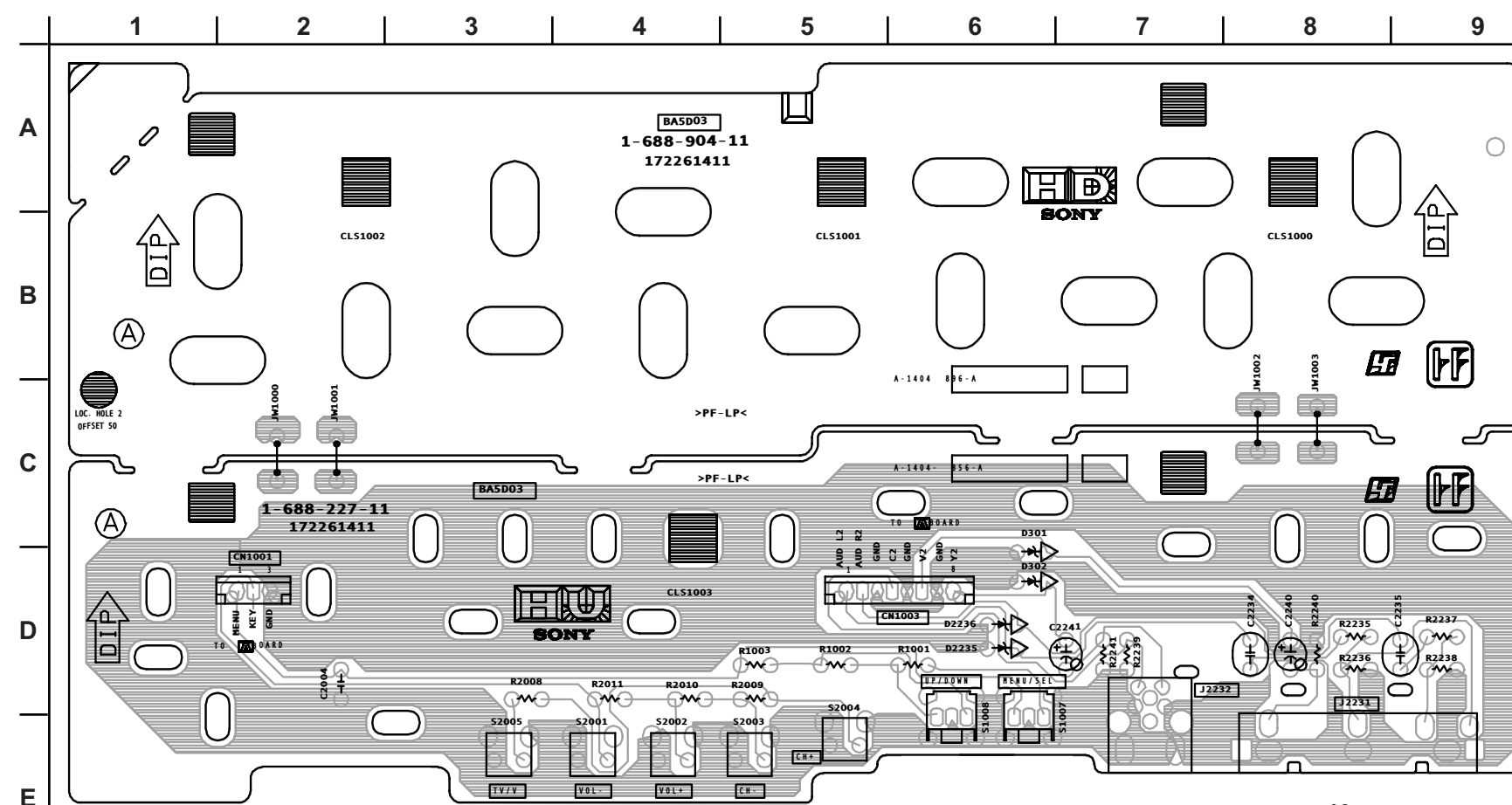
BC BOARD WAVEFORM





HU CONDUCTOR SIDE [FRONT PANEL]

HU COMPONENT SIDE [FRONT PANEL]



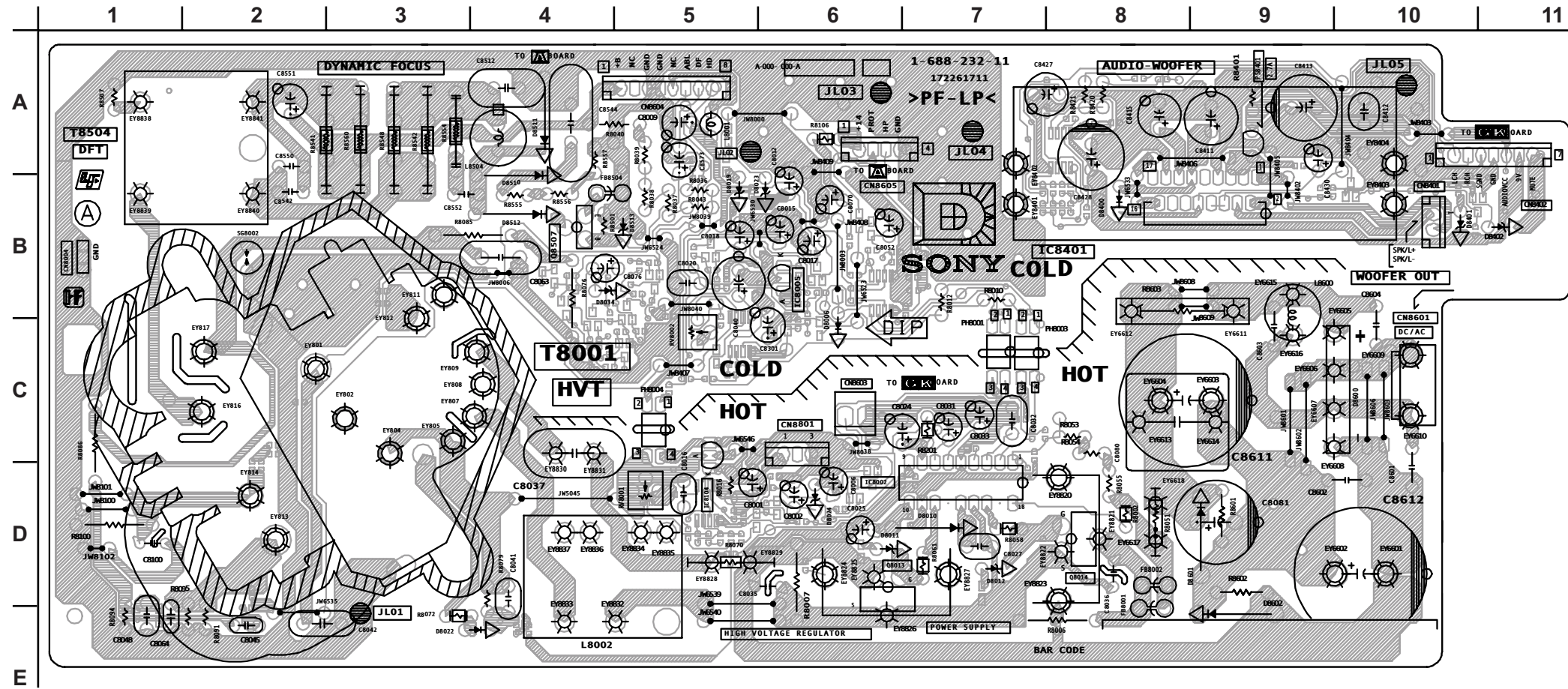


D BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q8003	0.2	2.7	GND
Q8004	0.2	2.7	GND
Q8007	0.0	0.0	GND
Q8008	0.0	0.0	GND
Q8011	9.0	0.0	9.0
Q8021	9.0	0.0	9.0
Q8028	0.0	9.0	GND
Q8034	0.0	9.0	GND
Q8035	9.0	2.5	9.0
Q8400	0.0	0.0	GND
Q8401	0.0	0.0	GND
Q8507	0.0	38.0	GND

	D	G	S
Q8013	155.0	4.3	GND
Q8014	315.0	158.0	156.0

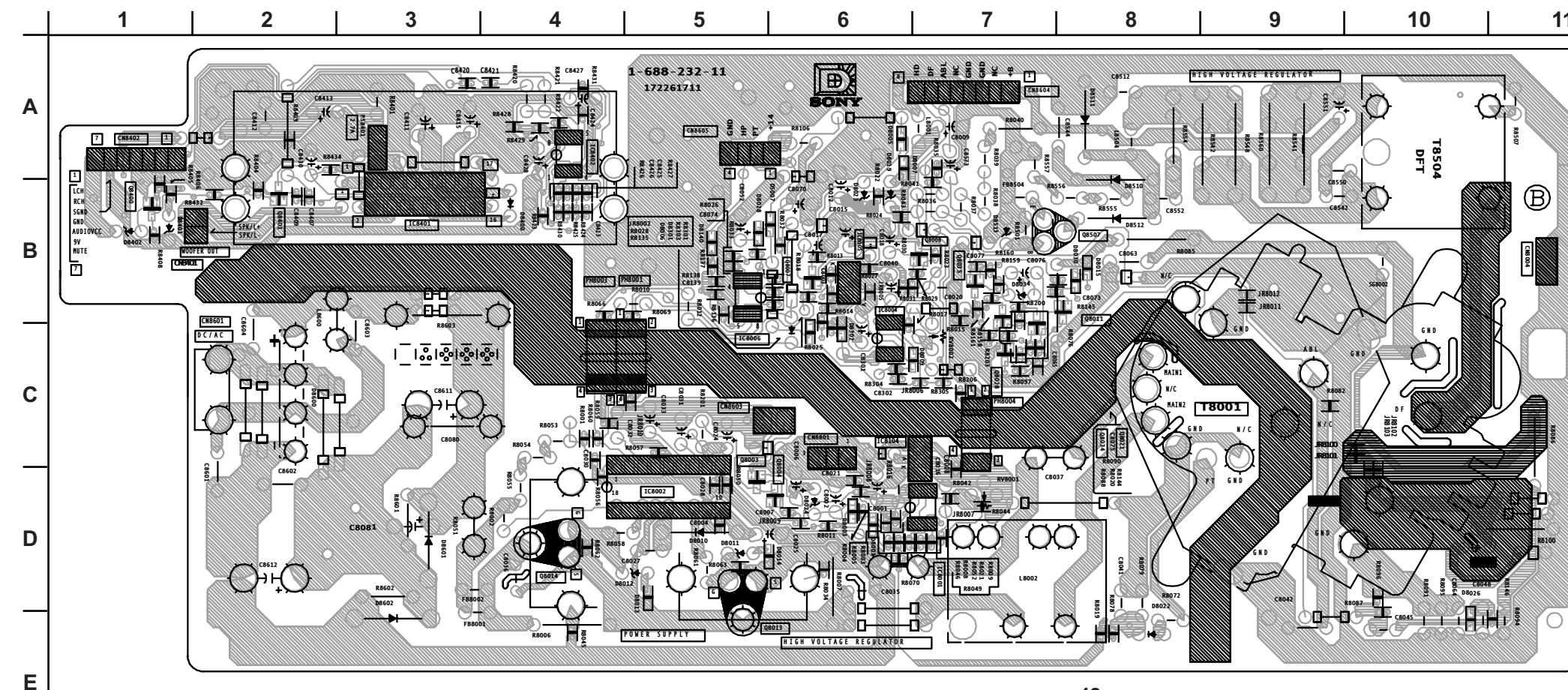
D COMPONENT SIDE [HV REGULATION, DYNAMIC FOCUS, SUB WOOFER]



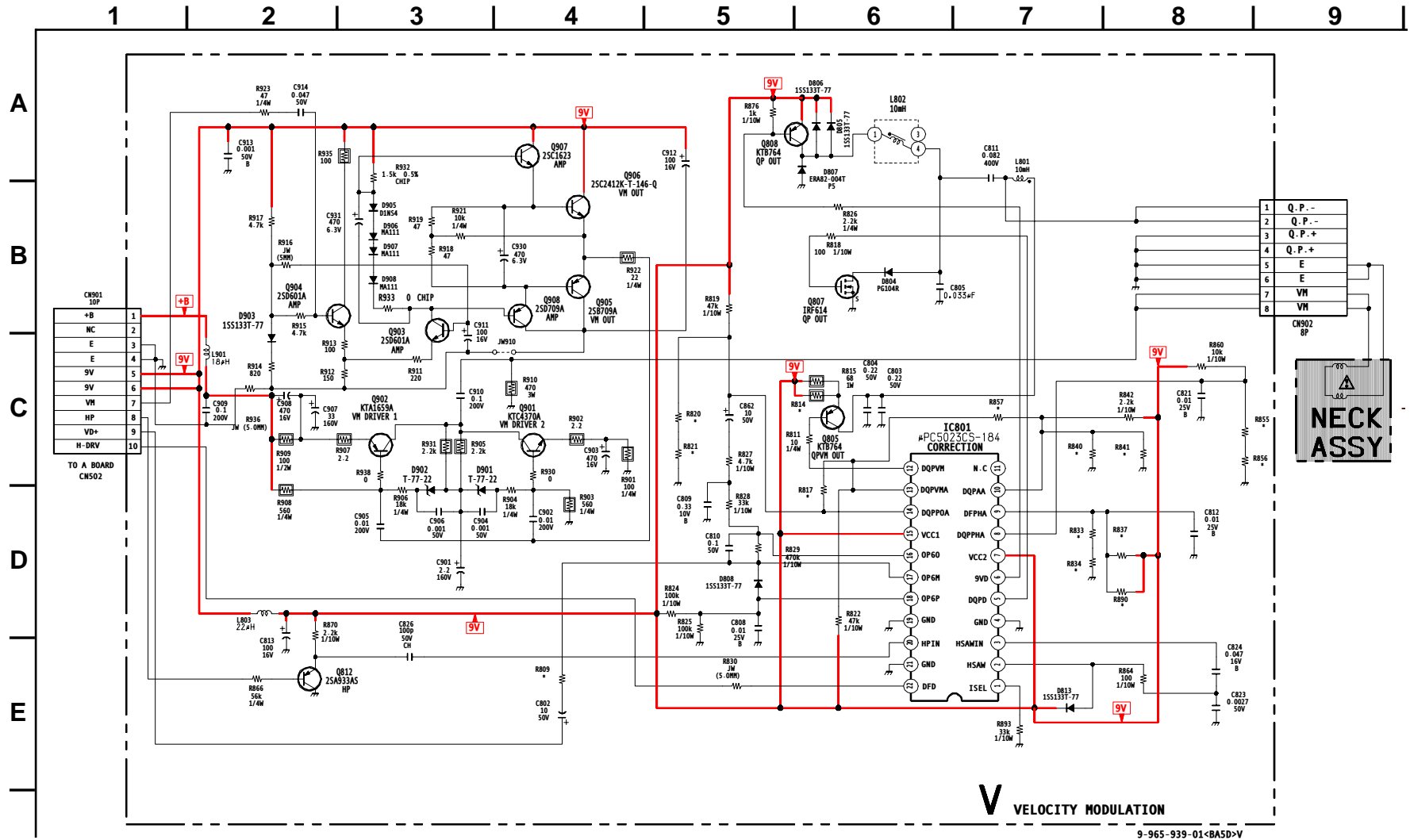
D BOARD LOCATOR LIST

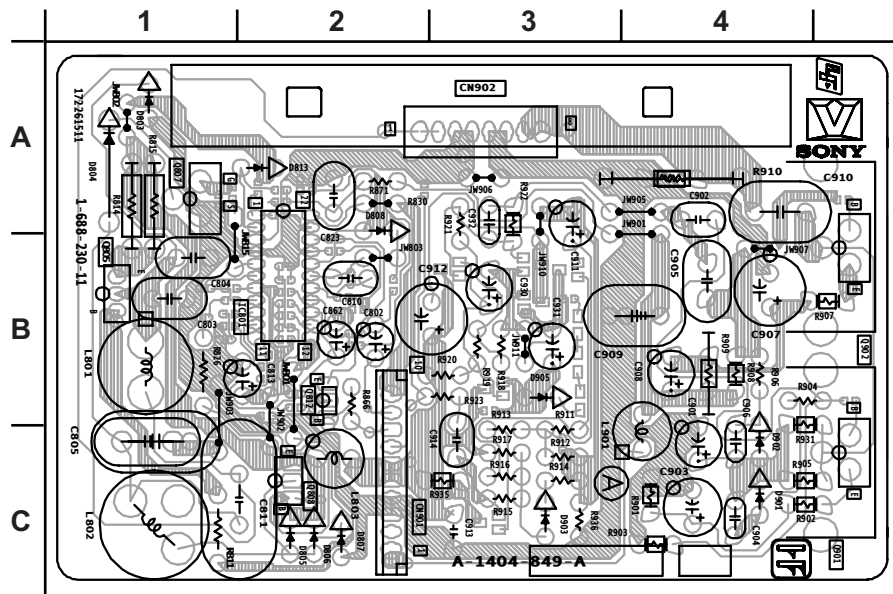
DIODE		IC	
D5007	B-5	IC8001	D-6
D8001	D-6	IC8002	D-5
D8003	D-6	IC8004	B-6
D8005	A-6	IC8005	B-6
D8006	B-5	IC8006	C-5
D8007	A-7	IC8104	C-6
D8009	C-7	IC8401	B-3
D8010	D-5	IC8402	A-4
D8011	D-5	TRANSISTOR	
D8012	D-4		
D8013	D-4		
D8014	D-5		
D8015	B-8		
D8019	B-6		
D8022	D-8		
D8023	B-6		
D8024	D-6		
D8026	D-10		
D8030	B-8	Q8003	D-5
D8034	B-7	Q8004	D-5
D8140	B-5	Q8007	B-6
D8301	B-5	Q8008	B-6
D8400	B-4	Q8011	C-8
D8510	B-8	Q8013	E-5
D8511	A-8	Q8014	D-4
D8512	B-8	Q8021	C-8
D8513	B-7	Q8028	C-7
		Q8034	C-8
		Q8035	B-7
		Q8400	B-1
		Q8401	B-2
		Q8507	B-8

D CONDUCTOR SIDE [HV REGULATION, DYNAMIC FOCUS, SUB WOOFER]



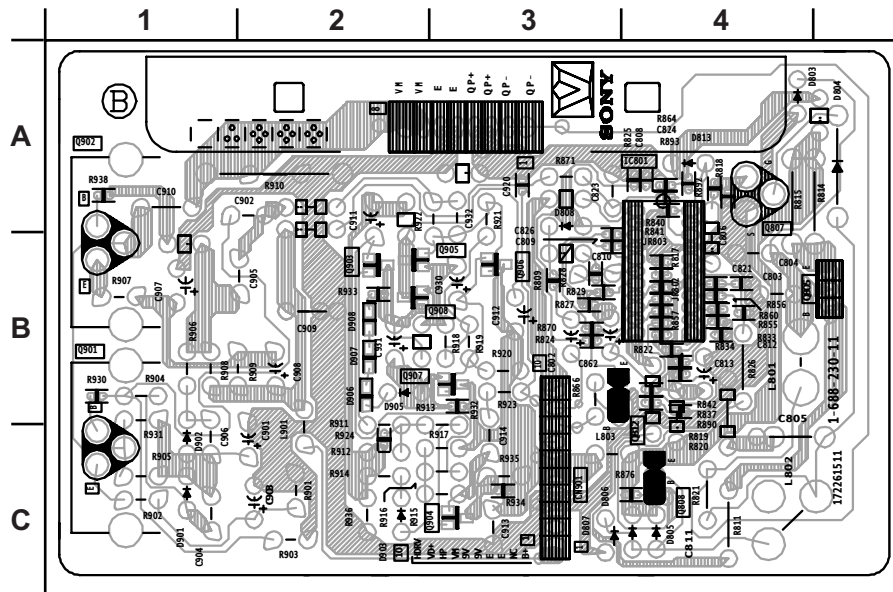
V BOARD SCHEMATIC DIAGRAM



V**COMPONENT SIDE [VELOCITY MODULATION]****V BOARD IC VOLTAGE LIST**

IC801		11	N/C
PIN	VOLT	12	3..5
1	7.4	13	3.8
2	2.3	14	4.5
3	4.8	15	9.0
4	GND	16	4.6
5	6.3	17	4.6
6	4.5	18	4.5
7	9.0	19	N/C
8	5.8	20	4.8
9	4.6	21	GND
10	4.8	22	0.3

All voltages are in V.

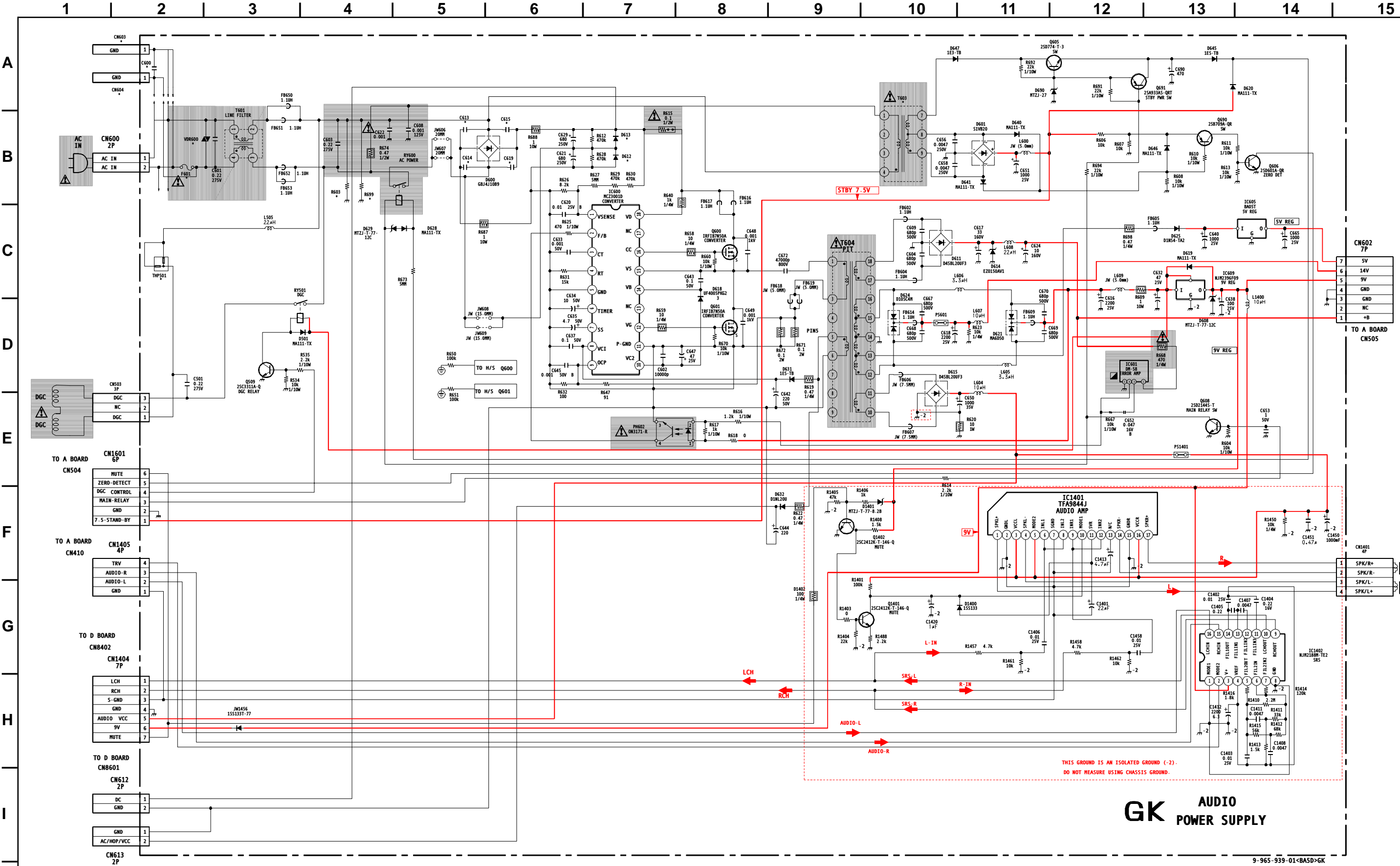
V**CONDUCTOR SIDE [VELOCITY MODULATION]****V BOARD TRANSISTOR VOLTAGE LIST**

	B	C	E
Q805	3.5	1.8	4.2
Q808	8.6	4.3	9.0
Q812	1.3	GND	2.0
Q901	1.4	67.0	0.8
Q902	132.9	67.0	133.4
Q903	1.2	6.2	1.8
Q904	1.2	8.8	1.8
Q905	7.1	0.0	6.7
Q906	7.4	9.0	7.1
Q907	7.4	9.0	8.1
Q908	6.9	0.0	6.2

	D	G	S
Q807	9.5	6.3	GND

All voltages are in V.

GK BOARD SCHEMATIC DIAGRAM



GK AUDIO POWER SUPPLY

GK BOARD IC VOLTAGE LIST

IC600		IC601		2	GND	3	9.0
PIN	VOLT	PIN	VOLT	3	19.6	4	0.0
1	2.8	1	134.6	4	8.3	5	0.0
2	1.9	2	N/C	5	19.6	6	4.5
3	2.3	3	2.4	6	3.2	7	0.0
4	2.6	4	8.4	7	0.0	8	GND
5	GND	5	GND	8	0.0	9	4.5
6	0.0	IC605		9	3.2	10	4.5
7	4.6	PIN	VOLT	10	9.1	11	4.5
8	17.5	I	6.1	11	9.7	12	4.5
9	0.0	O	5.0	12	3.2	13	4.5
10	10.6	G	GND	13	3.3	14	4.4
11	0.0	IC609		14	8.3	15	4.4
12	4.9	PIN	VOLT	15	GND	16	4.5
13	2.3	I	10.5	16	19.6	All voltages are in V.	
14	163.9	O	9.0	17	8.3		
15	153.8	G	GND	IC1402			
16	158.2	IC1401		PIN	VOLT		
17	2.6	PIN	VOLT	1	GND		
18	314.0	1	8.3	2	0.3		

**GK BOARD TRANSISTOR
VOLTAGE LIST**

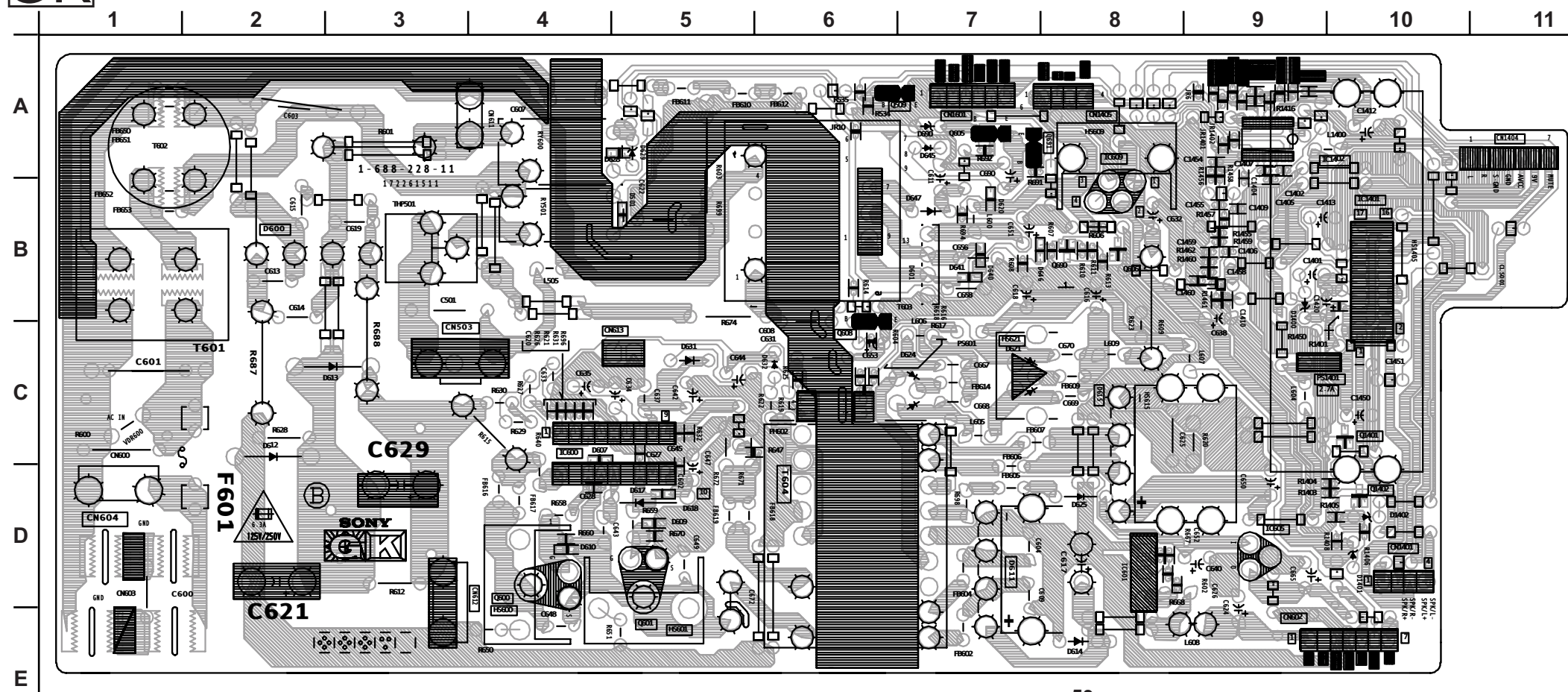
	B	C	E
Q509	0.3	10.5	GND
Q605	7.6	18.8	7.6
Q606	0.0	0.5	GND
Q608	0.6	0.0	GND
Q690	6.1	0.5	5.9
Q691	6.9	7.6	7.6
Q1401	8.4	9.2	GND
Q1402	0.0	0.0	GND

	D	G	S
Q600	313.0	160.0	156.0
Q601	155.0	4.9	0.0

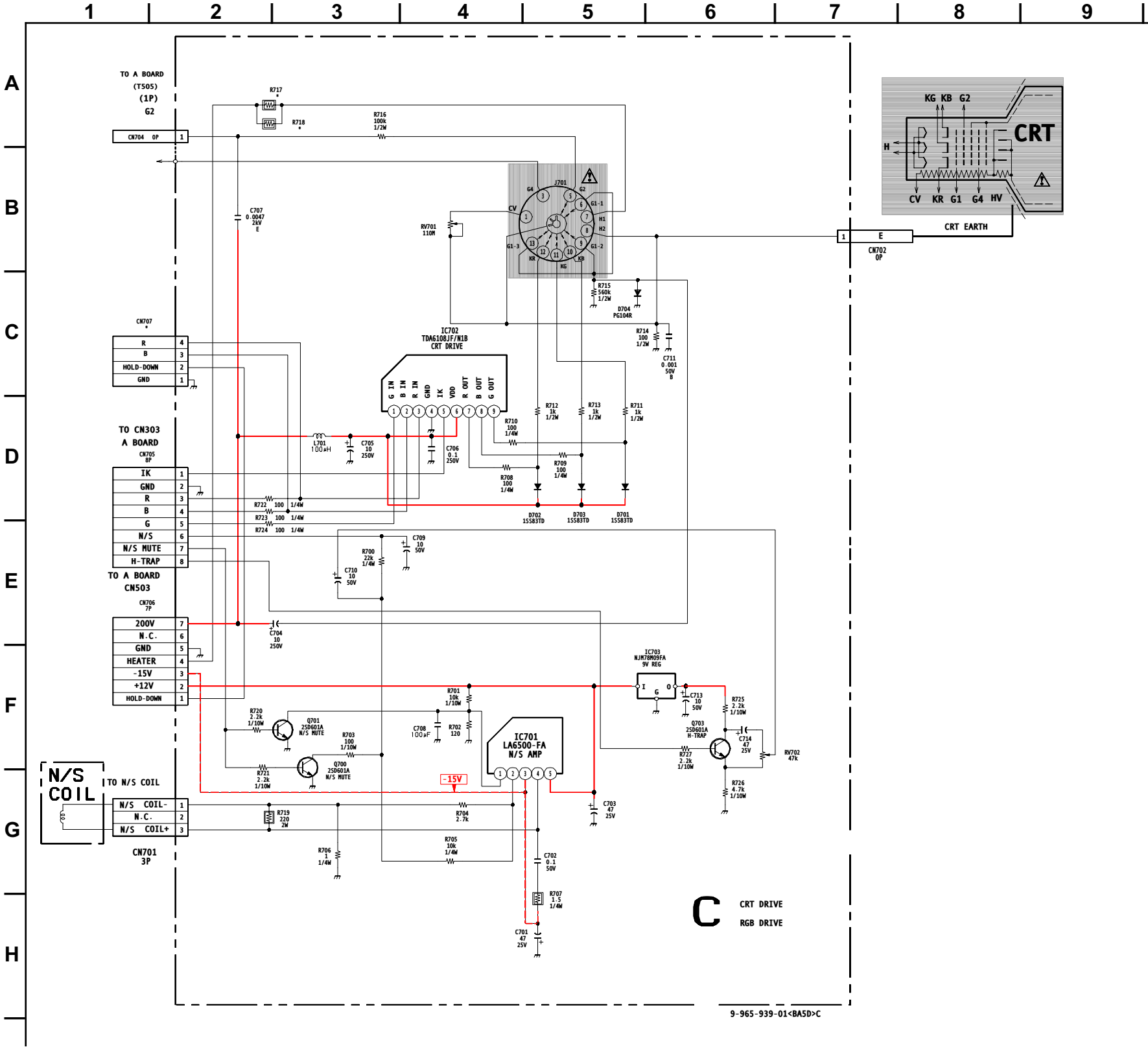
All voltages are in V.



DIODE		IC	
D1400	C-9	IC1401	B-10
D1401	D-10	IC1402	B-10
D1402	D-10	IC600	C-4
D501	B-5	IC601	D-8
D600	B-2	IC605	D-9
D601	B-7	IC609	A-8
D611	D-7		
D612	C-2	TRANSISTOR	
D613	C-2	Q1401	C-10
D614	E-8	Q1402	D-10
D615	C-8	Q509	A-6
D618	D-5	Q600	D-4
D620	B-7	Q601	E-5
D621	C-7	Q605	A-7
D624	C-7	Q606	B-8
D625	D-8	Q608	C-6
D628	A-4	Q690	B-8
D629	A-5	Q691	A-8
D631	C-5		
D632	C-5		
D640	B-7		
D641	B-7		
D645	A-7		
D646	B-8		
D647	B-7		
D690	A-7		



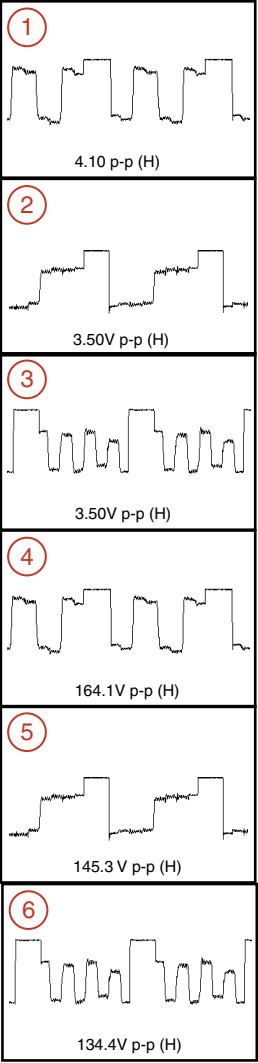
C BOARD SCHEMATIC DIAGRAM



C BOARD IC VOLTAGE LIST

IC701		IC703	
PIN	VOLT	PIN	VOLT
1	0.3	I	12.0
2	0.3	0	9.0
3	-13.0	G	GND
4	0.5	All voltages are in V.	
5	12.0		
IC702			
PIN	VOLT		
1	2.2		
2	2.2		
3	2.2		
4	GND		
5	5.0		
6	200.0		
7	139.7		
8	142.0		
9	138.6		

C BOARD WAVEFORMS



C BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q700	0.3	0.8	GND
Q701	0.3	0.3	GND
Q703	6.0	6.5	5.5

All voltages are in V.

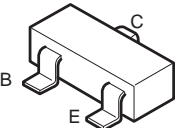
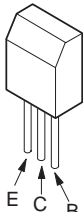
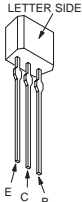
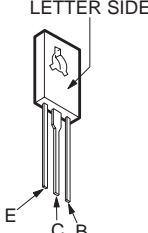
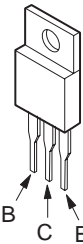
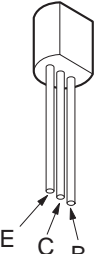
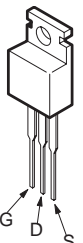
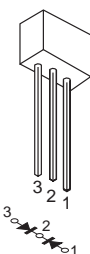
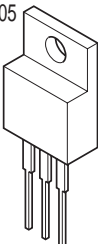
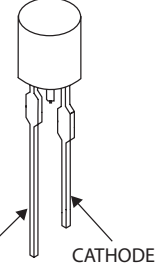
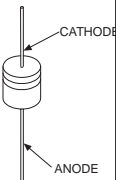
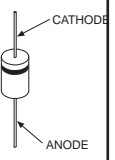
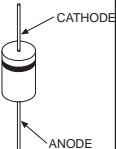
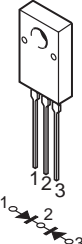
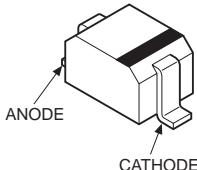
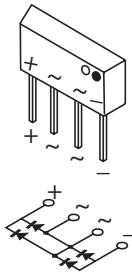
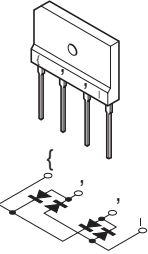
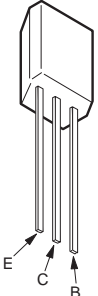
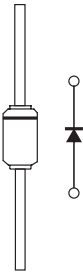
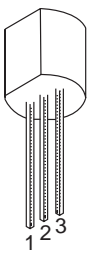
1 | **2** | **3** | **4** | **5**



1 | 2 | 3 | 4 | 5



5-5. SEMICONDUCTORS


<p>2SB709A-QRS-TX 2SD601A-QRS-TX 2SC2412K-T-146-QR</p> 	<p>2SC3209LK-TP 2SD774-T-34</p> 	<p>2SD1858-Q-TV2 2SC3311A-QRSTA 2SD2144S-TP-UVW</p> 	<p>2SC3840K</p> 	<p>2SC4159-E</p> 
<p>2SA10910-TPE2</p> 	<p>IRF614</p> 	<p>SVC203SPA-AL</p> 	<p>IRFIB7N50A-LF31 2SC5511 2SA2005</p> 	<p>DAL5815</p> 
<p>D1NS4-TA2 D1NS4-TR ERA38-06TP1 ERA82-004TP5 1SS133T-77 MTZJ-T-77-3.3B MTZJ-T-77-3.6B MTZJ-T-77-3.9B MTZJ-T-77-6.2B MTZJ-T-77-6.8B MTZJ-T-77-12C MTZJ-T-77-15B MTZJ-T-77-22</p> 	<p>ERC06-15S MTZJ-T-77-5.1C MTZJ-T-77-5.6C MTZJ-T-77-7.5A MTZJ-T-77-9.1B MTZJ-T-77-10B MTZJ-T-77-30D RGP10-GPKG3 RGP02-17PKG23 RGP15GPKG23</p> 	<p>EL1Z-V1 ERB44-06TP1 ERC04-06SE 1SS83TD 1N4003GA 1N4937/23 GP08DPKG23 PR1004GT RGP10GPKG23 RU4AM-T3</p> 	<p>D10SC4M</p> 	<p>MA111-TX UDZSTE-1710B</p> 
	<p>S1VB20</p> 	<p>D4SB60L-F</p> 	<p>2SC2668-YTP</p> 	<p>MTZJ-T-77-27</p> 
<p>2SA933AS-QRT</p> 				


SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

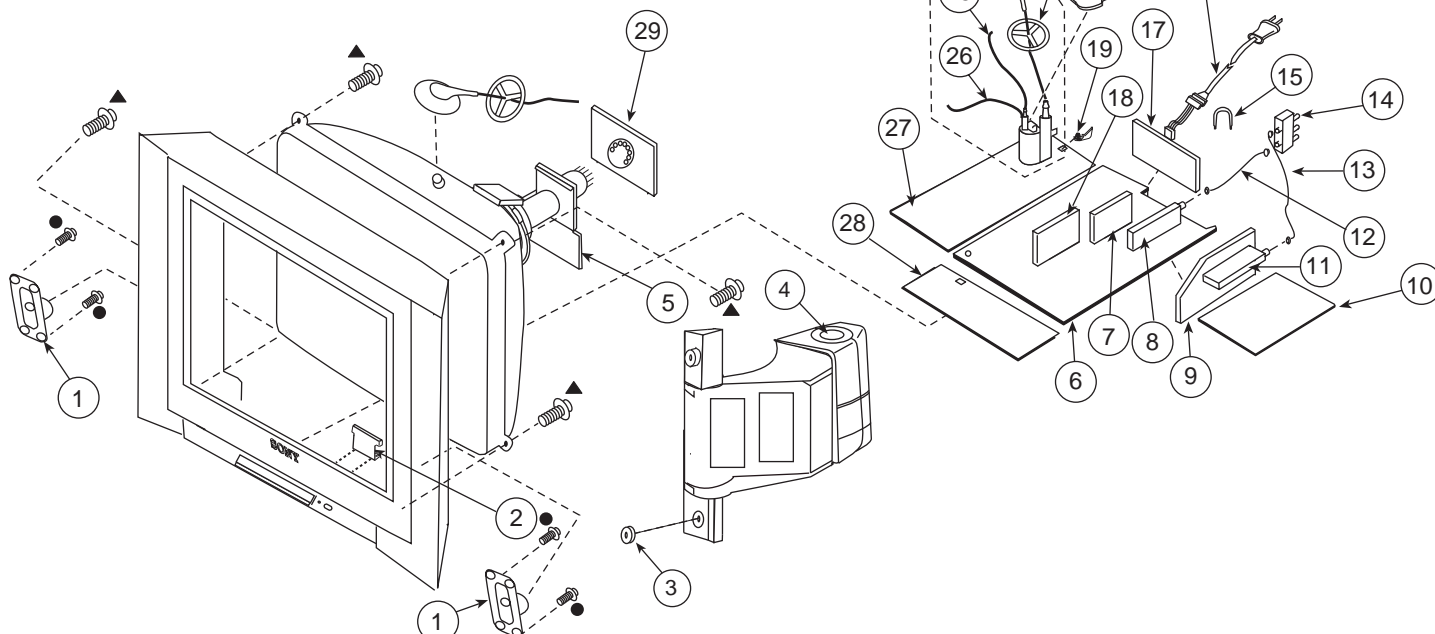
* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.









NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-1. CHASSIS (KV-27FV310/29FV310 ONLY)

- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
- 4-388-477-01 SCREW(3X16), TAPPING, +BV WASHER



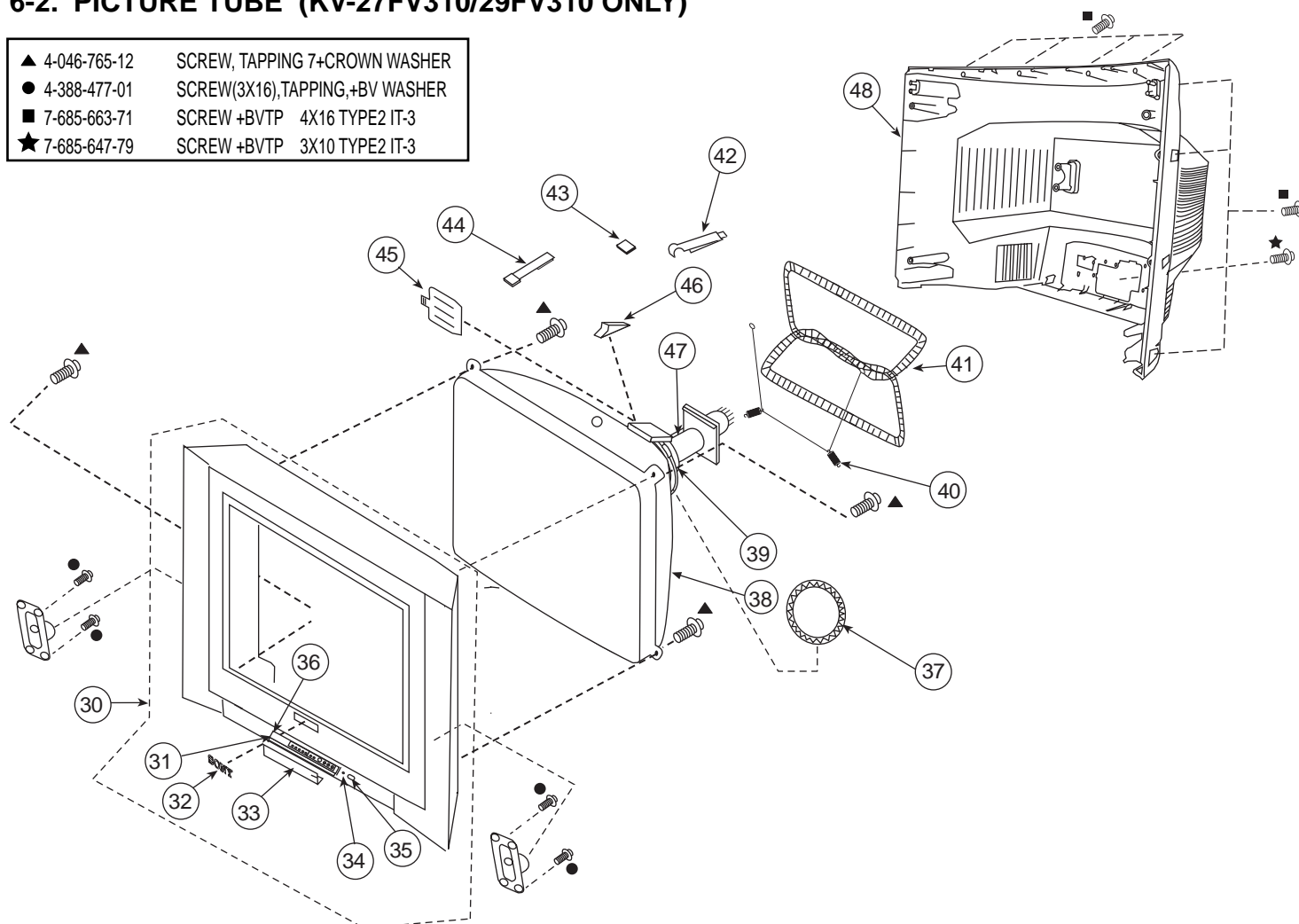
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	1-825-417-11	LOUDSPEAKER	 16	1-769-796-31	CORD, POWER (WITH CONNECTOR) (KV-29FV310 LATIN SOUTH ONLY)	
* 2	A-1400-251-A	HR (COM) BOARD, MOUNTED	* 17	4-087-877-11	BRACKET, TERMINAL	
* 3	4-374-745-41	CUSHION (A)	* 18	A-1404-854-A	Y BOARD, MOUNTED	
4	1-825-416-11	SUB WOOFER SPEAKER (10CM)	19	4-064-646-01	CLIP, CHASSIS	
* 5	A-1404-848-A	V (VAR) BOARD, MOUNTED	20	1-500-586-11	FILTER, CLAMP (FERRITE CORE)	
* 6	A-1302-089-A	A BOARD, COMPLETE (ALL EXCEPT KV-29FV310 LATIN SOUTH)	* 21	4-094-669-01	BRACKET, FBT	
* 6	A-1302-166-A	A BOARD, COMPLETE (KV-29FV310 LATIN SOUTH ONLY)	 22	4-084-918-01	HOLDER, HV CABLE	
* 7	A-1400-450-A	BC BOARD, MOUNTED	 23	1-453-387-21	FBT ASSY/NX-6020//M3J4	(24-26)
8	8-598-593-50	TUNER FSS BTF-WA421	 24	1-251-374-14	CAP ASSY, HIGH-VOLTAGE	
* 9	A-1404-846-A	P (VAR) BOARD, MOUNTED	 25	1-900-805-19	WIRE ASSY, FOCUS HV	
* 10	A-1404-844-A	GK (VAR) BOARD, MOUNTED (ALL EXCEPT KV-29FV310 LATIN SOUTH)	 26	1-900-805-22	CONNECTOR ASSY, G2 HV	
* 10	A-1405-113-A	GK (VAR) BOARD, MOUNTED (KV-29FV310 LATIN SOUTH ONLY)	The high voltage leads associated with the FBT on the following D boards are not included and must be ordered separately (SEE 24-26)			
11	8-598-594-30	TUNER FSS BTF-FA421	* 27	A-1404-852-A	D (VAR) BOARD, MOUNTED (ALL EXCEPT KV-29FV310 LATIN SOUTH)	
* 12	1-555-110-00	CABLE, P-P	* 27	A-1405-114-A	D (VAR) BOARD, MOUNTED (KV-29FV310 LATIN SOUTH ONLY)	
* 13	1-558-539-21	CABLE, P-P				
 14	1-771-787-13	SWITCH, RF ANTENNA				
* 15	4-076-951-01	HINGE, PWB				
 16	1-827-159-11	POWER CORD WITH CONNECTOR (ALL EXCEPT KV-29FV310 LATIN SOUTH)	* 28	A-1404-855-A	HU (VAR) BOARD, MOUNTED	
			* 29	A-1404-850-A	C (VAR) BOARD, MOUNTED	








NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-2. PICTURE TUBE (KV-27FV310/29FV310 ONLY)

- | | |
|----------------|----------------------------------|
| ▲ 4-046-765-12 | SCREW, TAPPING 7+CROWN WASHER |
| ● 4-388-477-01 | SCREW(3X16), TAPPING, +BV WASHER |
| ■ 7-685-663-71 | SCREW +BVTP 4X16 TYPE2 IT-3 |
| ★ 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 IT-3 |



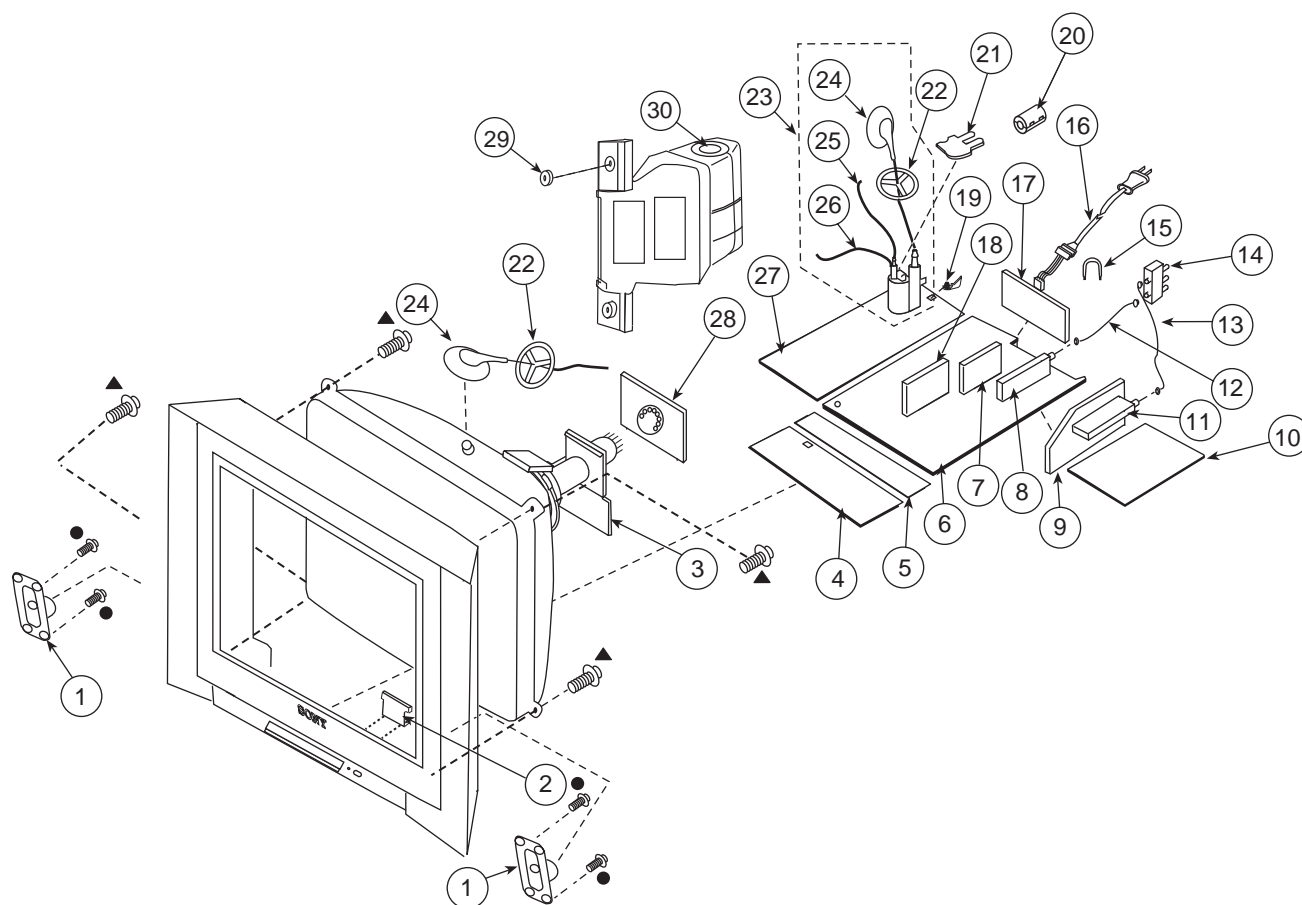
REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION
30	X-4041-487-1	BEZNET ASSY	(31-36)	40	4-036-329-01	SPRING (B), TENSION
31	4-087-374-01	SPRING, DOOR		 41	1-419-156-21	COIL, DEGAUSSING
32	4-046-160-11	EMBLEM, SONY (NO.9)				(ALL EXCEPT KV-29FV310 LATIN SOUTH)
33	4-087-375-11	DOOR, CONTROL		 41	1-419-523-21	COIL, DEGAUSSING
34	4-087-156-01	GUIDE, LIGHT				(KV-29FV310 LATIN SOUTH ONLY)
35	4-087-150-01	BUTTON, POWER		* 42	4-062-970-12	CLIP (29RSN), DGC
36	4-036-880-21	DAMPER		43	1-452-885-11	MAGNET, LANDING
 37	1-452-896-11	COIL, NA ROTATION (RT200)		44	4-083-414-01	PIECE A(110), CONV CORRECT
 38	8-735-082-05	CRT 29RSN(SDP) M68LNH050X		45	4-081-170-01	PLATE, TLH CORRECTION
		(ALL EXCEPT KV-29FV310 LATIN SOUTH)		46	4-053-005-01	SPACER, DY
 38	8-735-083-05	CRT 29RSN(SDP)(SOUTH) M68LNH050X		 47	8-453-011-11	NECK ASSEMBLY NA299-M
		(KV-29FV310 LATIN SOUTH ONLY)		48	4-087-777-22	COVER, REAR
 39	8-451-494-41	DY Y29RSA-V				







NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un triangle et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-3. CHASSIS (KV-32FV310 ONLY)

- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
● 4-388-477-01 SCREW(3X16), TAPPING, +BV WASHER



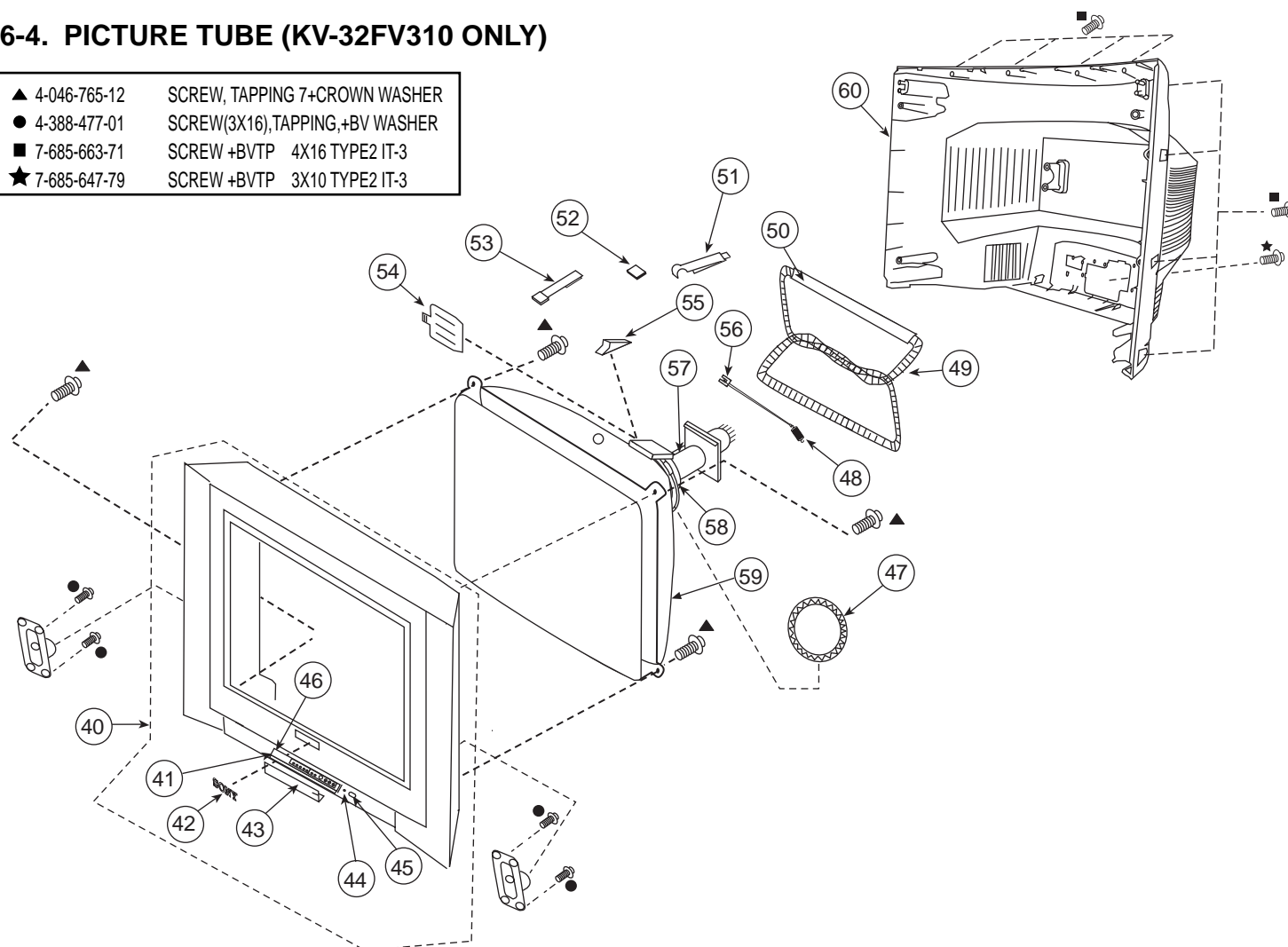
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	1-825-417-11	LOUDSPEAKER	 16	1-827-159-11	POWER CORD WITH CONNECTOR	
* 2	A-1400-251-A	HR (COM) BOARD, MOUNTED	* 17	4-087-877-11	BRACKET, TERMINAL	
* 3	A-1404-895-A	V (VAR) BOARD, MOUNTED	* 18	A-1404-854-A	Y BOARD, MOUNTED	
* 4	A-1404-855-A	HU (VAR) BOARD, MOUNTED	19	4-064-646-01	CLIP, CHASSIS	
* 5	A-1404-896-A	HD BOARD, MOUNTED	20	1-500-586-11	FILTER, CLAMP (FERRITE CORE)	
* 6	A-1302-106-A	A BOARD, COMPLETE	* 21	4-094-669-01	BRACKET, FBT	
* 7	A-1400-450-A	BC BOARD, MOUNTED	22	4-084-918-01	HOLDER, HV CABLE	
8	8-598-593-50	TUNER FSS BTF-WA421	 23	1-453-387-21	FBT ASSY NX-6020//M3J4	(24-26)
* 9	A-1404-846-A	P (VAR) BOARD, MOUNTED	 24	1-251-715-22	CAP ASSY, HIGH-VOLTAGE	
* 10	A-1404-844-A	GK (VAR) BOARD, MOUNTED	 25	1-900-805-19	WIRE ASSY, FOCUS HV	
11	8-598-594-30	TUNER FSS BTF-FA421	 26	1-900-805-22	CONNECTOR ASSY, G2 HV	
* 12	1-555-110-00	CABLE, P-P	* 27	A-1404-897-A	D (VAR) BOARD, MOUNTED	The high voltage leads associated with the FBT on the D board are not included and must be ordered separately (SEE 24-26)
* 13	1-558-539-21	CABLE, P-P	* 28	A-1405-169-A	C (VAR) BOARD, MOUNTED	
 14	1-771-787-13	SWITCH, RF ANTENNA	29	4-374-745-41	CUSHION (A)	
* 15	4-076-951-01	HINGE, PWB	30	1-825-416-11	SUB WOOFER SPEAKER (10CM)	




NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-4. PICTURE TUBE (KV-32FV310 ONLY)

- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
- 4-388-477-01 SCREW(3X16), TAPPING, +BV WASHER
- 7-685-663-71 SCREW +BVTP 4X16 TYPE2 IT-3
- ★ 7-685-647-79 SCREW +BVTP 3X10 TYPE2 IT-3



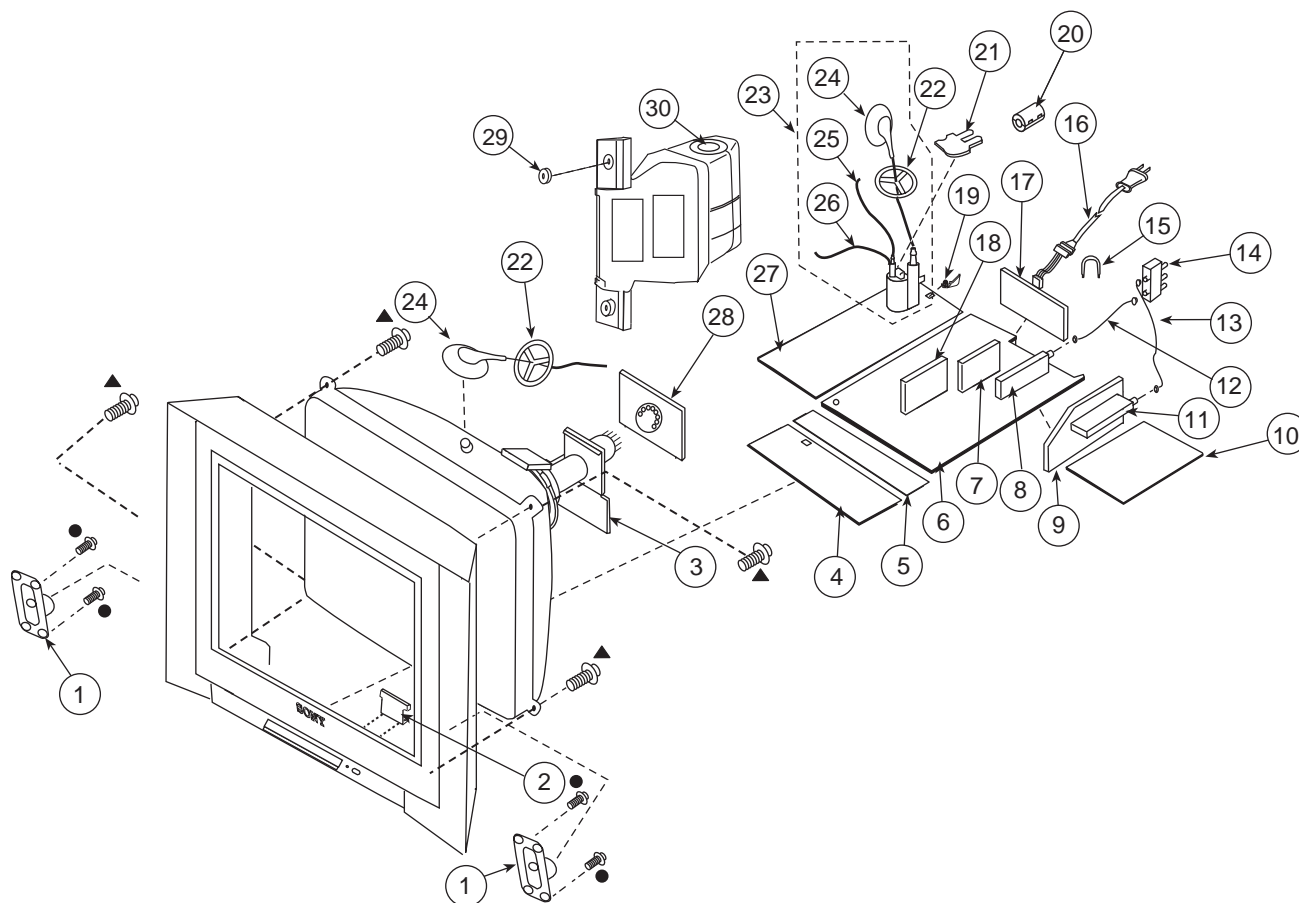
REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION
40	X-4041-404-1	BEZNET ASSY	(41-46)	51	4-065-895-11	HOLDER, DGC
41	4-087-374-01	SPRING, DOOR		52	1-452-885-11	MAGNET, LANDING
42	4-046-160-11	EMBLEM, SONY (NO.9)		53	4-083-414-01	PIECE A(110), CONV CORRECT
43	4-087-375-11	DOOR, CONTROL		54	4-081-170-01	PLATE, TLH CORRECTION
44	4-087-156-01	GUIDE, LIGHT		55	4-053-005-01	SPACER, DY
45	4-087-150-01	BUTTON, POWER		56	4-082-640-01	HOOK, GROUND WIRE
46	4-036-880-21	DAMPER		57	8-453-007-41	NECK ASSEMBLY NA324-M4
 47	1-452-896-11	COIL, NA ROTATION (RT200)		58	8-451-499-41	DY Y34RSA-V
48	4-082-641-01	SPRING, 45MM		59	8-735-066-05	CRT 34RSN(SDP) A80LPD50X
 49	1-428-988-11	DEGAUSSING COIL (32 120V)		 60	4-087-878-21	COVER, REAR
* 50	4-074-576-01	CUSHION, DGC				

NOTE: The components identified by shading and \triangle mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un triangle et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-5. CHASSIS (KV-36FV310 ONLY)

- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
● 4-388-477-01 SCREW(3X16), TAPPING, +BV WASHER



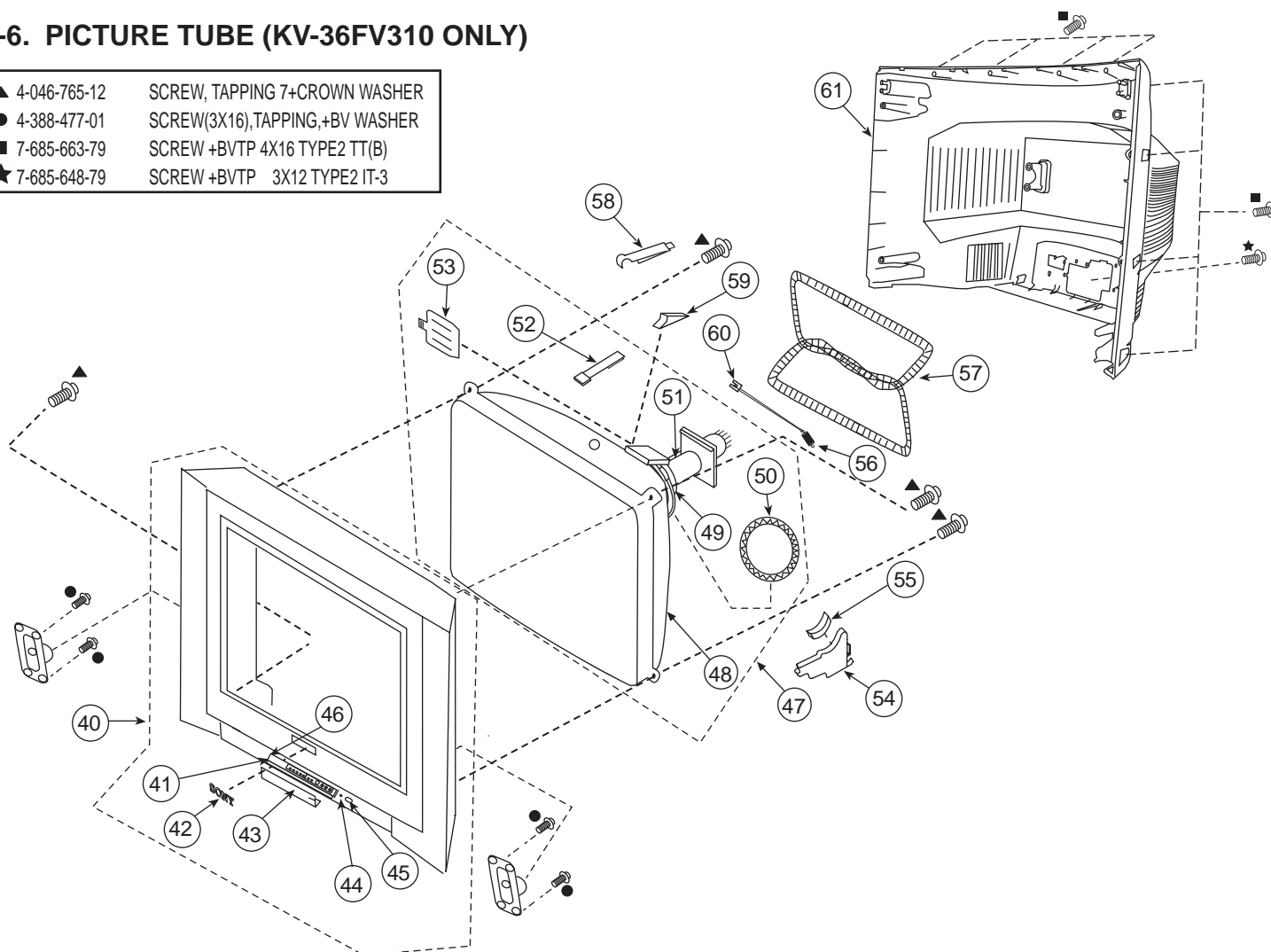
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	1-825-417-11	LOUDSPEAKER	\triangle 16	1-827-159-11	POWER CORD WITH CONNECTOR	
* 2	A-1400-251-A	HR (COM) BOARD, MOUNTED	* 17	4-087-877-11	BRACKET, TERMINAL	
* 3	A-1404-955-A	V (VAR) BOARD, MOUNTED	* 18	A-1404-854-A	Y BOARD, MOUNTED	
* 4	A-1404-855-A	HU (VAR) BOARD, MOUNTED	19	4-064-646-01	CLIP, CHASSIS	
* 5	A-1404-896-A	HD BOARD, MOUNTED	20	1-500-586-11	FILTER, CLAMP (FERRITE CORE)	
* 6	A-1302-129-A	A BOARD, COMPLETE	* 21	4-094-669-01	BRACKET, FBT	
* 7	A-1400-450-A	BC BOARD, MOUNTED	22	4-084-918-01	HOLDER, HV CABLE	
8	8-598-593-50	TUNER FSS BTF-WA421	\triangle 23	1-453-389-31	FBT ASSY NX-6020//M3C4	(24-26)
* 9	A-1404-846-A	P (VAR) BOARD, MOUNTED	\triangle 24	1-251-715-32	CAP ASSY, HIGH-VOLTAGE	
* 10	A-1404-956-A	GK (VAR) BOARD, MOUNTED	\triangle 25	1-900-805-19	WIRE ASSY, FOCUS HV	
11	8-598-594-30	TUNER FSS BTF-FA421	\triangle 26	1-900-805-22	CONNECTOR ASSY, G2 HV	
* 12	1-555-110-00	CABLE, P-P	* 27	A-1404-897-A	D (VAR) BOARD, MOUNTED	The high voltage leads associated with the FBT on the D board are not included and must be ordered separately (SEE 24-26)
* 13	1-558-539-21	CABLE, P-P	* 28	A-1405-222-A	C (VAR) BOARD, MOUNTED	
\triangle 14	1-771-787-13	SWITCH, RF ANTENNA	* 29	4-374-745-41	CUSHION (A)	
* 15	4-076-951-01	HINGE, PWB	30	1-825-416-11	SUB WOOFER SPEAKER (10CM)	









NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un triangle et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-6. PICTURE TUBE (KV-36FV310 ONLY)


- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER
- 4-388-477-01 SCREW(3X16),TAPPING,+BV WASHER
- 7-685-663-79 SCREW +BVTP 4X16 TYPE2 TT(B)
- ★ 7-685-648-79 SCREW +BVTP 3X12 TYPE2 IT-3




REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION
40	X-4041-548-1	BEZNET ASSY	(41-46)	 49	8-451-506-22	DY Y38RSA-V
41	4-087-374-01	SPRING, DOOR		 50	1-452-896-11	COIL, NA ROTATION (RT200)
42	4-046-160-11	EMBLEM, SONY (NO.9)		 51	8-453-007-41	NECK ASSEMBLY NA324-MA
43	4-087-375-21	DOOR, CONTROL		52	4-085-128-01	PIECE A(110), CONV CORRECT
44	4-087-156-01	GUIDE, LIGHT		53	2-163-920-01	PLATE, TLH CORRECTION
45	4-087-150-01	BUTTON, POWER		54	4-086-875-02	SUPPORTER, CRT
46	4-036-880-11	DAMPER		55	4-088-879-01	CUSHION, 36 CRT SUPPORTER
 47	8-735-081-61	ITC 38RSN-A1M	(48-53)	56	4-082-641-01	SPRING, 45MM
		(KV-36FV310 HAWAII ONLY)		 57	1-428-987-11	DEGAUSSING COIL (36 120V)
 47	8-735-048-61	ITC 38RSN-A1	(48-53)	58	4-065-895-04	HOLDER, DGC
		(KV-36FV310 US & CND ONLY)		59	4-053-093-01	SPACER, DY
 48	8-735-081-05	CRT 38RSN (FOR TAIWAN, ETC.) A90LPW80X		60	4-082-640-01	HOOK, GROUND WIRE
		(KV-36FV310 HAWAII ONLY)		61	4-086-697-21	COVER, REAR
 48	8-735-048-05	CRT 38RSN A90LPW80X				
		(KV-36FV310 US & CND ONLY)				

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components in this manual identified by the following symbol:  indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.

Should replacement be required for one of these components, replace only with the value originally used.

* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

RESISTORS

- All resistors are in ohms
- F : nonflammable
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.



When ordering parts by reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
<div>A</div> <div>* * * *</div>	A-1302-089-A	A BOARD, COMPLETE (KV-27FV310/29FV310(N) ONLY)				C036	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V
	A-1302-106-A	A BOARD, COMPLETE(KV-32FV310 ONLY)				C037	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	A-1302-129-A	A BOARD, COMPLETE(KV-36FV310 ONLY)				C038	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	A-1302-166-A	A BOARD, COMPLETE(KV-29FV310(S) ONLY)				C039	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V
						C041	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	4-382-854-11	SCREW (M3X10), P, SW (+)				C043	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	CAPACITOR					C044	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C001	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C045	1-126-964-11	ELECT	10μF	20%	50V
C002	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C046	1-126-964-11	ELECT	10μF	20%	50V
C003	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C047	1-126-941-11	ELECT	470μF	20%	25V
C004	1-126-947-11	ELECT	47μF	20%	35V	C048	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V
C005	1-164-739-11	CERAMIC CHIP	560pF	5%	50V	C049	1-126-964-11	ELECT	10μF	20%	50V
C006	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C050	1-126-941-11	ELECT	470μF	20%	25V
C007	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C051	1-126-947-11	ELECT	47μF	20%	35V
C008	1-126-960-11	ELECT	1μF	20%	50V	C052	1-162-968-11	CERAMIC CHIP	0.0047μF	10%	50V
C009	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C053	1-135-834-91	CERAMIC CHIP	2.2μF		6.3V
C014	1-162-975-11	CERAMIC CHIP	24pF	5%	50V	C054	1-126-963-11	ELECT	4.7μF	20%	50V
C015	1-162-975-11	CERAMIC CHIP	24pF	5%	50V	C055	1-126-933-11	ELECT	100μF	20%	16V
C016	1-126-935-11	ELECT	470μF	20%	16V	C056	1-135-834-91	CERAMIC CHIP	2.2μF		6.3V
C017	1-162-966-11	CERAMIC CHIP	0.0022μF	10%	50V	C057	1-135-834-91	CERAMIC CHIP	2.2μF		6.3V
C018	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C060	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C020	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C062	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V
C026	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C065	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V
C027	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C101	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V
C028	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C102	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V
C029	1-126-960-11	ELECT	1μF	20%	50V	C111	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C030	1-165-176-11	CERAMIC CHIP	0.047μF	10%	16V	C120	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C031	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C121	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C032	1-126-964-11	ELECT	10μF	20%	50V	C122	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C033	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V	C133	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C034	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C200	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C035	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	C201	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
						C202	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
						C203	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
						C206	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
C207	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C360	1-126-960-11	ELECT	1μF	20%	50V
C208	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C365	1-162-117-00	CERAMIC	100pF	10%	500V
C209	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C366	1-113-619-11	CERAMIC CHIP	0.47μF		10V
C210	1-126-963-11	ELECT	4.7μF	20%	50V	C367	1-113-619-11	CERAMIC CHIP	0.47μF		10V
C211	1-126-963-11	ELECT	4.7μF	20%	50V	C368	1-113-619-11	CERAMIC CHIP	0.47μF		10V
C212	1-126-963-11	ELECT	4.7μF	20%	50V	C371	1-126-964-11	ELECT	10μF	20%	50V
C213	1-126-963-11	ELECT	4.7μF	20%	50V	C372	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C302	1-126-963-11	ELECT	4.7μF	20%	50V	C373	1-104-665-11	ELECT	100μF	20%	25V
C303	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C374	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C305	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C393	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C307	1-126-964-11	ELECT	10μF	20%	50V	C397	1-126-935-11	ELECT	470μF	20%	16V
C308	1-126-964-11	ELECT	10μF	20%	50V	C400	1-128-934-91	CERAMIC CHIP	0.33μF	20%	10V
C309	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C401	1-164-227-11	CERAMIC CHIP	0.022μF	10%	25V
C310	1-126-964-11	ELECT	10μF	20%	50V	C402	1-164-174-11	CERAMIC CHIP	0.0082μF	10%	25V
C311	1-126-947-11	ELECT	47μF	20%	35V	C403	1-162-967-11	CERAMIC CHIP	0.0033μF	10%	50V
C312	1-126-964-11	ELECT	10μF	20%	50V	C404	1-162-967-11	CERAMIC CHIP	0.0033μF	10%	50V
C313	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C405	1-164-677-11	CERAMIC CHIP	0.033μF	10%	16V
C314	1-126-964-11	ELECT	10μF	20%	50V	C406	1-164-677-11	CERAMIC CHIP	0.033μF	10%	16V
C315	1-126-964-11	ELECT	10μF	20%	50V	C407	1-115-412-11	CERAMIC CHIP	680pF	5%	25V
C319	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C408	1-115-412-11	CERAMIC CHIP	680pF	5%	25V
C320	1-126-959-11	ELECT	0.47μF	20%	50V	C409	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V
C321	1-126-947-11	ELECT	47μF	20%	35V	C410	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V
C322	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C411	1-128-934-91	CERAMIC CHIP	0.33μF	20%	10V
C330	1-126-964-11	ELECT	10μF	20%	50V	C412	1-126-961-11	ELECT	2.2μF	20%	50V
C333	1-126-963-11	ELECT	4.7μF	20%	50V	C413	1-126-960-11	ELECT	1μF	20%	50V
C335	1-162-918-11	CERAMIC CHIP	18pF	5%	50V	C414	1-126-960-11	ELECT	1μF	20%	50V
C337	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	C415	1-126-960-11	ELECT	1μF	20%	50V
C338	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C416	1-126-960-11	ELECT	1μF	20%	50V
C339	1-113-619-11	CERAMIC CHIP	0.47μF		10V	C417	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V
C340	1-126-767-11	ELECT	1000μF	20%	16V	C418	1-126-963-11	ELECT	4.7μF	20%	50V
C341	1-126-947-11	ELECT	47μF	20%	35V	C419	1-104-666-11	ELECT	220μF	20%	25V
C343	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C420	1-126-960-11	ELECT	1μF	20%	50V
C344	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C421	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C345	1-113-619-11	CERAMIC CHIP	0.47μF		10V	C422	1-126-768-11	ELECT	2200μF	20%	16V
C346	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C423	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C347	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C424	1-126-964-11	ELECT	10μF	20%	50V
C351	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C426	1-126-964-11	ELECT	10μF	20%	50V
C352	1-126-947-11	ELECT	47μF	20%	35V	C427	1-126-964-11	ELECT	10μF	20%	50V
C353	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	C452	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C354	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C453	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C355	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C501	1-102-110-00	CERAMIC	220pF	10%	50V
C356	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C502	1-126-959-11	ELECT	0.47μF	20%	50V
C357	1-126-960-11	ELECT	1μF	20%	50V	C503	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C358	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C504	1-102-228-00	CERAMIC	470pF	10%	500V

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REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
*	J205	1-817-461-11	PIN JACK BLOCK	5P	JR421	1-216-864-11	SHORT CHIP
*	J206	1-817-461-11	PIN JACK BLOCK	5P	JR428	1-216-864-11	SHORT CHIP
	J207	1-794-116-11	JACK BLOCK, PIN	2P	JR440	1-216-864-11	SHORT CHIP
				JR442	1-216-864-11	SHORT CHIP	
				JR500	1-216-864-11	SHORT CHIP	
		CHIP CONDUCTOR					
	JR2	1-216-864-11	SHORT CHIP	JR580	1-216-864-11	SHORT CHIP	
	JR4	1-216-864-11	SHORT CHIP	JR590	1-216-864-11	SHORT CHIP	
	JR9	1-216-864-11	SHORT CHIP				
	JR10	1-216-864-11	SHORT CHIP				
	JR12	1-216-864-11	SHORT CHIP				
						COIL	
	JR13	1-216-864-11	SHORT CHIP	L001	1-414-857-11	INDUCTOR	100μH
	JR14	1-216-864-11	SHORT CHIP	L002	1-414-857-11	INDUCTOR	100μH
	JR15	1-216-864-11	SHORT CHIP	L003	1-414-856-11	INDUCTOR	10μH
	JR33	1-216-864-11	SHORT CHIP	L004	1-414-857-11	INDUCTOR	100μH
	JR202	1-216-864-11	SHORT CHIP	L009	1-414-857-11	INDUCTOR	100μH
	JR205	1-216-864-11	SHORT CHIP	L010	1-414-182-11	INDUCTOR	6.8μH
	JR206	1-216-864-11	SHORT CHIP	L300	1-414-857-11	INDUCTOR	100μH
	JR301	1-216-864-11	SHORT CHIP	L301	1-414-857-11	INDUCTOR	100μH
	JR302	1-216-864-11	SHORT CHIP	L302	1-414-856-11	INDUCTOR	10μH
	JR303	1-216-864-11	SHORT CHIP	L303	1-410-478-11	INDUCTOR	47μH
	JR304	1-216-864-11	SHORT CHIP	L304	1-410-470-11	INDUCTOR	10μH
	JR305	1-216-864-11	SHORT CHIP	L500	1-412-537-31	INDUCTOR	100μH
	JR306	1-216-864-11	SHORT CHIP	L501	1-406-677-11	INDUCTOR	10MH
	JR307	1-216-864-11	SHORT CHIP	L502	1-412-552-81	INDUCTOR	2.2MH
	JR308	1-216-864-11	SHORT CHIP	L503	1-406-677-11	INDUCTOR	10MH
	JR309	1-216-864-11	SHORT CHIP	L505	1-406-978-11	INDUCTOR	150μH
	JR311	1-216-864-11	SHORT CHIP		(KV-32FV310/36FV310 ONLY)		
	JR312	1-216-864-11	SHORT CHIP	L505	1-419-714-11	INDUCTOR	100μH
	JR313	1-216-864-11	SHORT CHIP		(KV-27FV310/29FV310 ONLY)		
	JR321	1-216-864-11	SHORT CHIP	L511	1-409-955-11	INDUCTOR	8MH
	JR322	1-216-864-11	SHORT CHIP			TRANSISTOR	
	JR323	1-216-864-11	SHORT CHIP	Q001	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR324	1-216-864-11	SHORT CHIP	Q002	8-729-422-27	TRANSISTOR	2SD601A-Q
	JR330	1-216-864-11	SHORT CHIP	Q003	8-729-422-27	TRANSISTOR	2SD601A-Q
	JR331	1-216-864-11	SHORT CHIP	Q004	8-729-422-27	TRANSISTOR	2SD601A-Q
				Q005	8-729-422-27	TRANSISTOR	2SD601A-Q
	JR333	1-216-864-11	SHORT CHIP	Q010	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR336	1-216-864-11	SHORT CHIP	Q110	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR337	1-216-864-11	SHORT CHIP	Q300	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR403	1-216-864-11	SHORT CHIP	Q304	8-729-422-27	TRANSISTOR	2SD601A-Q
	JR410	1-216-864-11	SHORT CHIP	Q305	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR415	1-216-864-11	SHORT CHIP	Q307	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR416	1-216-864-11	SHORT CHIP	Q308	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR418	1-216-864-11	SHORT CHIP	Q309	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
	JR420	1-216-864-11	SHORT CHIP	Q314	8-729-422-27	TRANSISTOR	2SD601A-Q



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q315	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R020	1-218-688-11	METAL CHIP	680	0.50%	1/10W
Q316	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R021	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q317	8-729-422-27	TRANSISTOR	2SD601A-Q			R022	1-218-688-11	METAL CHIP	680	0.50%	1/10W
Q319	8-729-422-27	TRANSISTOR	2SD601A-Q			R023	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q325	8-729-422-27	TRANSISTOR	2SD601A-Q			R024	1-218-688-11	METAL CHIP	680	0.50%	1/10W
Q326	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R025	1-216-813-11	METAL CHIP	220	5%	1/10W
Q400	8-729-422-27	TRANSISTOR	2SD601A-Q			R027	1-216-813-11	METAL CHIP	220	5%	1/10W
Q401	8-729-422-27	TRANSISTOR	2SD601A-Q			R029	1-249-409-11	CARBON	220	5%	1/4W
Q402	8-729-422-27	TRANSISTOR	2SD601A-Q			R030	1-216-841-11	METAL CHIP	47K	5%	1/10W
Q403	8-729-422-27	TRANSISTOR	2SD601A-Q			R031	1-216-809-11	METAL CHIP	100	5%	1/10W
Q407	8-729-422-27	TRANSISTOR	2SD601A-Q			R032	1-216-813-11	METAL CHIP	220	5%	1/10W
Q500	8-729-422-27	TRANSISTOR	2SD601A-Q			R033	1-249-417-11	CARBON	1K	5%	1/4W
Q501	8-729-140-50	TRANSISTOR	2SC3209LK			R034	1-216-813-11	METAL CHIP	220	5%	1/10W
Q502	6-550-107-01	TRANSISTOR	2SD2645-YB			R035	1-216-813-11	METAL CHIP	220	5%	1/10W
Q511	8-729-120-28	TRANSISTOR	2SC1623-L5L6			R037	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q512	8-729-809-29	TRANSISTOR	2SC4159-E			R038	1-249-417-11	CARBON	1K	5%	1/4W
Q530	8-729-422-27	TRANSISTOR	2SD601A-Q			R039	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q531	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R048	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q532	6-550-362-01	TRANSISTOR	KTA1279			R050	1-216-833-11	METAL CHIP	10K	5%	1/10W
Q561	8-729-422-27	TRANSISTOR	2SD601A-Q			R051	1-216-857-11	METAL CHIP	1M	5%	1/10W
Q562	8-729-120-28	TRANSISTOR	2SC1623-L5L6			R052	1-216-845-11	METAL CHIP	100K	5%	1/10W
Q580	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R053	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q581	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R054	1-249-417-11	CARBON	1K	5%	1/4W
Q590	8-729-422-27	TRANSISTOR	2SD601A-Q			R055	1-216-841-11	METAL CHIP	47K	5%	1/10W
Q6000	8-729-422-27	TRANSISTOR	2SD601A-Q			R056	1-216-813-11	METAL CHIP	220	5%	1/10W
RESISTOR						R057	1-216-845-11	METAL CHIP	100K	5%	1/10W
R001	1-249-429-11	CARBON	10K	5%	1/4W	R058	1-216-845-11	METAL CHIP	100K	5%	1/10W
R002	1-249-409-11	CARBON	220	5%	1/4W	R060	1-249-409-11	CARBON	220	5%	1/4W
R003	1-216-817-11	METAL CHIP	470	5%	1/10W	R061	1-249-437-11	CARBON	47K	5%	1/4W
R004	1-216-857-11	METAL CHIP	1M	5%	1/10W	R063	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R005	1-216-821-11	METAL CHIP	1K	5%	1/10W	R064	1-216-813-11	METAL CHIP	220	5%	1/10W
R006	1-249-417-11	CARBON	1K	5%	1/4W	R065	1-216-841-11	METAL CHIP	47K	5%	1/10W
R007	1-216-833-11	METAL CHIP	10K	5%	1/10W	R066	1-249-429-11	CARBON	10K	5%	1/4W
R009	1-216-864-11	SHORT CHIP				R070	1-216-813-11	METAL CHIP	220	5%	1/10W
R010	1-249-409-11	CARBON	220	5%	1/4W	R071	1-216-841-11	METAL CHIP	47K	5%	1/10W
R011	1-216-821-11	METAL CHIP	1K	5%	1/10W	R073	1-249-425-11	CARBON	4.7K	5%	1/4W
R012	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	R074	1-249-417-11	CARBON	1K	5%	1/4W
R013	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R075	1-216-813-11	METAL CHIP	220	5%	1/10W
R015	1-216-813-11	METAL CHIP	220	5%	1/10W	R076	1-216-841-11	METAL CHIP	47K	5%	1/10W
R016	1-216-813-11	METAL CHIP	220	5%	1/10W	R077	1-216-809-11	METAL CHIP	100	5%	1/10W
R017	1-216-813-11	METAL CHIP	220	5%	1/10W	R078	1-216-841-11	METAL CHIP	47K	5%	1/10W
R018	1-216-813-11	METAL CHIP	220	5%	1/10W	R080	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R019	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R085	1-215-924-00	METAL OXIDE	15K	5%	3W
						R086	1-216-839-11	METAL CHIP	33K	5%	1/10W



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R087	1-216-837-11	METAL CHIP	22K	5%	1/10W	R224	1-216-813-11	METAL CHIP	220	5%	1/10W
R089	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R225	1-216-845-11	METAL CHIP	100K	5%	1/10W
R098	1-216-821-11	METAL CHIP	1K	5%	1/10W	R228	1-216-845-11	METAL CHIP	100K	5%	1/10W
R099	1-216-809-11	METAL CHIP	100	5%	1/10W	R229	1-216-845-11	METAL CHIP	100K	5%	1/10W
R101	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R230	1-249-409-11	CARBON	220	5%	1/4W
R102	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R231	1-216-813-11	METAL CHIP	220	5%	1/10W
R103	1-249-425-11	CARBON	4.7K	5%	1/4W	R232	1-216-853-11	METAL CHIP	470K	5%	1/10W
R104	1-216-813-11	METAL CHIP	220	5%	1/10W	R233	1-216-853-11	METAL CHIP	470K	5%	1/10W
R107	1-216-809-11	METAL CHIP	100	5%	1/10W	R234	1-216-813-11	METAL CHIP	220	5%	1/10W
R108	1-216-809-11	METAL CHIP	100	5%	1/10W	R235	1-216-813-11	METAL CHIP	220	5%	1/10W
R110	1-247-807-31	CARBON	100	5%	1/4W	R300	1-113-619-11	CERAMIC CHIP	0.47μF		10V
R111	1-216-809-11	METAL CHIP	100	5%	1/10W	R301	1-216-809-11	METAL CHIP	100	5%	1/10W
R113	1-247-807-31	CARBON	100	5%	1/4W	R302	1-216-817-11	METAL CHIP	470	5%	1/10W
R114	1-249-409-11	CARBON	220	5%	1/4W	R303	1-216-818-11	METAL CHIP	560	5%	1/10W
R117	1-216-837-11	METAL CHIP	22K	5%	1/10W	R306	1-216-843-11	METAL CHIP	68K	5%	1/10W
R118	1-216-837-11	METAL CHIP	22K	5%	1/10W	R307	1-216-843-11	METAL CHIP	68K	5%	1/10W
R120	1-249-413-11	CARBON	470	5%	1/4W	R308	1-216-833-11	METAL CHIP	10K	5%	1/10W
R125	1-216-813-11	METAL CHIP	220	5%	1/10W	R309	1-216-864-11	SHORT CHIP			
R129	1-249-409-11	CARBON	220	5%	1/4W	R315	1-218-285-11	METAL CHIP	75	5%	1/10W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R316	1-218-285-11	METAL CHIP	75	5%	1/10W
R131	1-216-813-11	METAL CHIP	220	5%	1/10W	R317	1-218-285-11	METAL CHIP	75	5%	1/10W
R132	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R320	1-216-864-11	SHORT CHIP			
R133	1-216-841-11	METAL CHIP	47K	5%	1/10W	R322	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R134	1-216-813-11	METAL CHIP	220	5%	1/10W	R325	1-247-807-31	CARBON	100	5%	1/4W
R135	1-216-813-11	METAL CHIP	220	5%	1/10W	R328	1-216-833-11	METAL CHIP	10K	5%	1/10W
R136	1-249-425-11	CARBON	4.7K	5%	1/4W	R329	1-216-809-11	METAL CHIP	100	5%	1/10W
R137	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R331	1-218-716-11	METAL CHIP	10K	0.50%	1/10W
R139	1-216-813-11	METAL CHIP	220	5%	1/10W	R332	1-216-809-11	METAL CHIP	100	5%	1/10W
R140	1-249-409-11	CARBON	220	5%	1/4W	R333	1-216-809-11	METAL CHIP	100	5%	1/10W
R145	1-249-401-11	CARBON	47	5%	1/4W	R334	1-216-821-11	METAL CHIP	1K	5%	1/10W
R201	1-216-864-11	SHORT CHIP				R335	1-216-821-11	METAL CHIP	1K	5%	1/10W
R202	1-249-409-11	CARBON	220	5%	1/4W	R336	1-216-809-11	METAL CHIP	100	5%	1/10W
R203	1-216-809-11	METAL CHIP	100	5%	1/10W	R337	1-249-417-11	CARBON	1K	5%	1/4W
R206	1-249-409-11	CARBON	220	5%	1/4W	R338	1-247-807-31	CARBON	100	5%	1/4W
R207	1-216-845-11	METAL CHIP	100K	5%	1/10W	R347	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R208	1-249-409-11	CARBON	220	5%	1/4W	R348	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R209	1-216-845-11	METAL CHIP	100K	5%	1/10W	R349	1-216-864-11	SHORT CHIP			
R210	1-249-409-11	CARBON	220	5%	1/4W	R350	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R217	1-216-845-11	METAL CHIP	100K	5%	1/10W	R351	1-216-864-11	SHORT CHIP			
R218	1-216-845-11	METAL CHIP	100K	5%	1/10W	R352	1-216-864-11	SHORT CHIP			
R219	1-216-813-11	METAL CHIP	220	5%	1/10W	R353	1-249-427-11	CARBON	6.8K	5%	1/4W
R220	1-216-813-11	METAL CHIP	220	5%	1/10W	R354	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R222	1-216-845-11	METAL CHIP	100K	5%	1/10W	R355	1-216-864-11	SHORT CHIP			
R223	1-216-813-11	METAL CHIP	220	5%	1/10W	R359	1-216-833-11	METAL CHIP	10K	5%	1/10W



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R368	1-216-864-11	SHORT CHIP				R501	1-216-815-11	METAL CHIP	330	5%	1/10W
R369	1-216-809-11	METAL CHIP	100	5%	1/10W		(KV-27FV310/29FV310 ONLY)				
R370	1-216-809-11	METAL CHIP	100	5%	1/10W	R501	1-216-817-11	METAL CHIP	470	5%	1/10W
R372	1-216-864-11	SHORT CHIP					(KV-32FV310/36FV310 ONLY)				
R374	1-216-833-11	METAL CHIP	10K	5%	1/10W	R502	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R376	1-216-809-11	METAL CHIP	100	5%	1/10W	R503	1-249-425-11	CARBON	4.7K	5%	1/4W
R378	1-216-809-11	METAL CHIP	100	5%	1/10W	R504	1-215-892-11	METAL OXIDE	1K	5%	2W
R379	1-216-809-11	METAL CHIP	100	5%	1/10W		(KV-27FV310/29FV310 ONLY)				
R380	1-216-809-11	METAL CHIP	100	5%	1/10W	R504	1-216-455-11	METAL OXIDE	560	5%	2W
R381	1-216-864-11	SHORT CHIP					(KV-32FV310/36FV310 ONLY)				
R382	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W	R505	1-249-433-11	CARBON	22K	5%	1/4W
R384	1-216-840-11	METAL CHIP	39K	5%	1/10W	R506	1-215-861-00	METAL OXIDE	47	5%	1W
R385	1-216-813-11	METAL CHIP	220	5%	1/10W	R507	1-249-401-11	CARBON	47	5%	1/4W
R387	1-216-864-11	SHORT CHIP				R508	1-249-425-11	CARBON	4.7K	5%	1/4W
R388	1-216-821-11	METAL CHIP	1K	5%	1/10W	R509	1-260-328-11	CARBON	1K	5%	1/2W
R389	1-216-864-11	SHORT CHIP				R510	1-215-908-00	METAL OXIDE	33	5%	3W
R390	1-218-285-11	METAL CHIP	75	5%	1/10W	R512	1-215-910-00	METAL OXIDE	68	5%	3W
R391	1-218-285-11	METAL CHIP	75	5%	1/10W	R516	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R393	1-218-285-11	METAL CHIP	75	5%	1/10W		(KV-32FV310 ONLY)				
R394	1-218-285-11	METAL CHIP	75	5%	1/10W	R516	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R395	1-218-285-11	METAL CHIP	75	5%	1/10W		(KV-36FV310 ONLY)				
R396	1-216-853-11	METAL CHIP	470K	5%	1/10W	R516	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R397	1-216-821-11	METAL CHIP	1K	5%	1/10W		(KV-27FV310/29FV310 ONLY)				
R398	1-216-841-11	METAL CHIP	47K	5%	1/10W	R517	1-249-417-11	CARBON	1K	5%	1/4W
R399	1-216-845-11	METAL CHIP	100K	5%	1/10W	R518	1-216-833-11	METAL CHIP	10K	5%	1/10W
R400	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R519	1-249-413-11	CARBON	470	5%	1/4W
R401	1-247-807-31	CARBON	100	5%	1/4W	R520	1-215-907-11	METAL OXIDE	22	5%	3W
R402	1-216-845-11	METAL CHIP	100K	5%	1/10W	R523	1-216-834-11	METAL CHIP	12K	5%	1/10W
R403	1-247-807-31	CARBON	100	5%	1/4W		(KV-32FV310/36FV310 ONLY)				
R404	1-216-845-11	METAL CHIP	100K	5%	1/10W	R523	1-216-837-11	METAL CHIP	22K	5%	1/10W
R405	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		(KV-27FV310/29FV310 ONLY)				
R406	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R524	1-249-429-11	CARBON	10K	5%	1/4W
R407	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R525	1-249-428-11	CARBON	8.2K	5%	1/4W
R408	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R526	1-215-905-11	METAL OXIDE	10	5%	3W
R409	1-247-807-31	CARBON	100	5%	1/4W		(KV-32FV310/36FV310 ONLY)				
R410	1-216-813-11	METAL CHIP	220	5%	1/10W	R526	1-216-377-11	METAL OXIDE	4.7	5%	2W
R411	1-216-817-11	METAL CHIP	470	5%	1/10W		(KV-27FV310/29FV310 ONLY)				
R412	1-216-821-11	METAL CHIP	1K	5%	1/10W	R528	1-216-837-11	METAL CHIP	22K	5%	1/10W
R413	1-216-833-11	METAL CHIP	10K	5%	1/10W	R529	1-218-724-11	METAL CHIP	22K	0.50%	1/10W
R414	1-216-813-11	METAL CHIP	220	5%	1/10W	R530	1-218-718-11	METAL CHIP	12K	0.50%	1/10W
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R531	1-218-734-11	METAL CHIP	56K	0.50%	1/10W
R452	1-216-813-11	METAL CHIP	220	5%	1/10W		(KV-32FV310/36FV310 ONLY)				
R453	1-216-813-11	METAL CHIP	220	5%	1/10W	R531	1-218-746-11	METAL CHIP	180K	0.50%	1/10W
R500	1-249-409-11	CARBON	220	5%	1/4W		(KV-27FV310/29FV310 ONLY)				

SWITCH

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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES			
<u>TRANSFORMER</u>						<div>BC</div>						
T501	1-433-836-11	TRANSFORMER, HORIZONTAL DRIVE				*	A-1400-450-A	BC BOARD, MOUNTED				
T502	1-435-869-11	TRANFORMER, FERRITE (PMT)										
T505	1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR (KV-27FV310/29FV310 ONLY)						<u>CAPACITOR</u>				
T505	1-435-098-21	TRANSFORMER, HORIZONTAL LINEAR (KV-32FV310/36FV310 ONLY)				C3355	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	
						C3356	1-126-964-11	ELECT	10μF	20%	50V	
T510	1-439-767-11	HORIZONTAL OUTPUT TRANSFORMER (KV-27FV310/29FV310 ONLY)				C3357	1-113-619-11	CERAMIC CHIP	0.47μF		10V	
T510	1-439-848-11	HORIZONTAL OUTPUT TRANSFORMER (KV-32FV310/36FV310 ONLY)				C3358	1-126-940-11	ELECT	330μF	20%	25V	
						C3359	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	
						C3360	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	
						C3361	1-162-922-11	CERAMIC CHIP	39pF	5%	50V	
						C3369	1-126-967-11	ELECT	47μF	20%	50V	
TH501	1-800-193-00	THERMISTOR				C3370	1-126-964-11	ELECT	10μF	20%	50V	
						C3371	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	
						C3398	1-126-961-11	ELECT	2.2μF	20%	50V	
TU001	8-598-593-50	TUNER, FSS BTF-WA421				C3504	1-162-920-11	CERAMIC CHIP	27pF	5%	50V	
						C3505	1-162-920-11	CERAMIC CHIP	27pF	5%	50V	
						C3506	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3507	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3509	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3510	1-164-392-11	CERAMIC CHIP	390pF	5%	50V	
						C3511	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3512	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3513	1-216-864-11	SHORT CHIP				
						C3514	1-162-974-11	CERAMIC CHIP	0.01μF		50V	
						C3515	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3516	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3517	1-126-924-11	ELECT	330μF	20%	10V	
						C3518	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3519	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3520	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
D3002	8-719-057-09	DIODE			LNJ801LPDJA	C3521	1-162-920-11	CERAMIC CHIP	27pF	5%	50V	
						C3522	1-126-947-11	ELECT	47μF	20%	35V	
						C3523	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3524	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3525	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3526	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
R3001	1-249-417-11	CARBON		1K	5%	1/4W	C3527	1-164-360-11	CERAMIC CHIP	0.1μF	16V	
R3014	1-247-807-31	CARBON		100	5%	1/4W	C3528	1-164-360-11	CERAMIC CHIP	0.1μF	16V	
						C3529	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3530	1-126-947-11	ELECT	47μF	20%	35V	
						C3531	1-164-360-11	CERAMIC CHIP	0.1μF		16V	
						C3532	1-126-964-11	ELECT	10μF	20%	50V	



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES
C3533	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	<u>FERRITE BEAD</u>			
C3534	1-109-889-11	ELECT	1μF	20%	50V	FB3502	1-414-234-22	FERRITE	0μH
C3535	1-162-917-11	CERAMIC CHIP	15pF	5%	50V	FB3503	1-414-234-22	FERRITE	0μH
C3536	1-126-960-11	ELECT	1μF	20%	50V	FB3504	1-414-234-22	FERRITE	0μH
C3537	1-164-360-11	CERAMIC CHIP	0.1μF		16V	FB3505	1-414-234-22	FERRITE	0μH
						FB3506	1-414-234-22	FERRITE	0μH
C3538	1-162-917-11	CERAMIC CHIP	15pF	5%	50V				
C3539	1-162-917-11	CERAMIC CHIP	15pF	5%	50V	FB3507	1-414-234-22	FERRITE	0μH
C3541	1-162-918-11	CERAMIC CHIP	18pF	5%	50V	FB3508	1-414-234-22	FERRITE	0μH
C3542	1-126-964-11	ELECT	10μF	20%	50V	FB3509	1-414-234-22	FERRITE	0μH
C3543	1-135-834-91	CERAMIC CHIP	2.2μF		6.3V				
						<u>FILTER</u>			
C3546	1-162-917-11	CERAMIC CHIP	15pF	5%	50V	FL3500	1-239-848-21	FILTER, LOW PASS	
C3547	1-126-934-11	ELECT	220μF	20%	16V	FL3501	1-239-848-21	FILTER, LOW PASS	
C3548	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	FL3502	1-239-848-21	FILTER, LOW PASS	
C3549	1-126-947-11	ELECT	47μF	20%	35V	FL3503	1-239-848-21	FILTER, LOW PASS	
C3550	1-162-974-11	CERAMIC CHIP	0.01μF		50V	FL3504	1-233-736-21	FILTER, EMI	
C3551	1-126-947-11	ELECT	47μF	20%	35V	FL3505	1-233-736-21	FILTER, EMI	
C3552	1-162-974-11	CERAMIC CHIP	0.01μF		50V	FL3506	1-233-736-21	FILTER, EMI	
C3553	1-162-974-11	CERAMIC CHIP	0.01μF		50V				
C3554	1-126-960-11	ELECT	1μF	20%	50V	<u>IC</u>			
C3555	1-126-934-11	ELECT	220μF	20%	16V	IC3501	6-700-960-01	IC	UPD64083GF-3BA
						IC3502	8-759-462-91	IC	TA1226N
C3556	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	IC3503	8-759-583-47	IC	UPC2933T-E2
C3557	1-162-974-11	CERAMIC CHIP	0.01μF		50V	IC3504	6-700-394-01	IC	BA25BC0FP-E2
C3558	1-126-947-11	ELECT	47μF	20%	35V	IC3505	8-759-394-35	IC	BA12T
C3559	1-162-974-11	CERAMIC CHIP	0.01μF		50V				
C3560	1-126-947-11	ELECT	47μF	20%	35V	<u>CHIP CONDUCTOR</u>			
						JR3301	1-216-864-11	SHORT CHIP	
C3561	1-162-974-11	CERAMIC CHIP	0.01μF		50V	JR3302	1-216-864-11	SHORT CHIP	
C3562	1-162-974-11	CERAMIC CHIP	0.01μF		50V	JR3501	1-216-864-11	SHORT CHIP	
C3563	1-126-947-11	ELECT	47μF	20%	35V				
C3564	1-126-947-11	ELECT	47μF	20%	35V	<u>COIL</u>			
C3565	1-162-974-11	CERAMIC CHIP	0.01μF		50V	L3352	1-414-186-31	INDUCTOR	33μH
						L3500	1-414-265-21	INDUCTOR	4.7μH
C3566	1-162-974-11	CERAMIC CHIP	0.01μF		50V	L3501	1-414-267-21	INDUCTOR	10μH
C3580	1-126-940-11	ELECT	330μF	20%	25V	L3502	1-414-267-21	INDUCTOR	10μH
C3581	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V	L3503	1-414-267-21	INDUCTOR	10μH
C3582	1-126-934-11	ELECT	220μF	20%	16V				
C3583	1-126-934-11	ELECT	220μF	20%	16V	L3504	1-414-267-21	INDUCTOR	10μH
						L3505	1-414-267-21	INDUCTOR	10μH
C3585	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V				
C3590	1-104-665-11	ELECT	100μF	20%	25V	<u>TRANSISTOR</u>			
<u>CONNECTOR</u>						Q3301	8-729-422-27	TRANSISTOR	2SD601A-Q
CN3500	1-764-613-11	CONNECTOR, BOARD TO BOARD	20P			Q3500	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
<u>DIODE</u>						Q3501	8-729-422-27	TRANSISTOR	2SD601A-Q
D3550	8-719-977-28	DIODE	DTZ10B			Q3502	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX

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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q3503	8-729-422-27	TRANSISTOR	2SD601A-Q			R3523	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3504	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3524	1-216-841-11	METAL CHIP	47K	5%	1/10W
Q3505	8-729-422-27	TRANSISTOR	2SD601A-Q			R3525	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
Q3506	8-729-422-27	TRANSISTOR	2SD601A-Q			R3526	1-216-849-11	METAL CHIP	220K	5%	1/10W
Q3508	8-729-422-27	TRANSISTOR	2SD601A-Q			R3527	1-218-676-11	METAL CHIP	220	0.50%	1/10W
Q3509	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3528	1-216-818-11	METAL CHIP	560	5%	1/10W
Q3510	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3529	1-216-818-11	METAL CHIP	560	5%	1/10W
Q3511	8-729-422-27	TRANSISTOR	2SD601A-Q			R3530	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
Q3512	8-729-422-27	TRANSISTOR	2SD601A-Q			R3531	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3513	8-729-422-27	TRANSISTOR	2SD601A-Q			R3532	1-216-809-11	METAL CHIP	100	5%	1/10W
Q3514	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3534	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3515	8-729-422-27	TRANSISTOR	2SD601A-Q			R3535	1-216-809-11	METAL CHIP	100	5%	1/10W
Q3516	8-729-422-27	TRANSISTOR	2SD601A-Q			R3538	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3517	8-729-422-27	TRANSISTOR	2SD601A-Q			R3539	1-216-818-11	METAL CHIP	560	5%	1/10W
Q3590	6-550-409-01	TRANSISTOR	KSC2383-O			R3540	1-216-821-11	METAL CHIP	1K	5%	1/10W
	RESISTOR					R3541	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
						R3542	1-216-818-11	METAL CHIP	560	5%	1/10W
R3301	1-216-805-11	METAL CHIP	47	5%	1/10W	R3543	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3302	1-216-805-11	METAL CHIP	47	5%	1/10W	R3544	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3303	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3545	1-216-818-11	METAL CHIP	560	5%	1/10W
R3305	1-216-809-11	METAL CHIP	100	5%	1/10W						
R3306	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3547	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
						R3548	1-216-864-11	SHORT CHIP			
R3364	1-216-845-11	METAL CHIP	100K	5%	1/10W	R3549	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3365	1-216-842-11	METAL CHIP	56K	5%	1/10W	R3550	1-216-817-11	METAL CHIP	470	5%	1/10W
R3366	1-216-850-11	METAL CHIP	270K	5%	1/10W	R3551	1-218-686-11	METAL CHIP	560	0.50%	1/10W
R3369	1-216-843-11	METAL CHIP	68K	5%	1/10W						
R3373	1-216-809-11	METAL CHIP	100	5%	1/10W	R3552	1-216-812-11	METAL CHIP	180	5%	1/10W
						R3553	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3501	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3554	1-216-820-11	METAL CHIP	820	5%	1/10W
R3505	1-216-864-11	SHORT CHIP				R3555	1-216-834-11	METAL CHIP	12K	5%	1/10W
R3506	1-216-864-11	SHORT CHIP				R3556	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3507	1-216-864-11	SHORT CHIP									
R3508	1-216-864-11	SHORT CHIP				R3557	1-216-821-11	METAL CHIP	1K	5%	1/10W
						R3558	1-216-805-11	METAL CHIP	47	5%	1/10W
R3509	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3559	1-216-864-11	SHORT CHIP			
R3510	1-216-817-11	METAL CHIP	470	5%	1/10W	R3560	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3511	1-216-817-11	METAL CHIP	470	5%	1/10W	R3561	1-216-818-11	METAL CHIP	560	5%	1/10W
R3514	1-216-809-11	METAL CHIP	100	5%	1/10W						
R3515	1-216-824-11	METAL CHIP	1.8K	5%	1/10W	R3563	1-216-864-11	SHORT CHIP			
						R3564	1-216-864-11	SHORT CHIP			
R3516	1-216-824-11	METAL CHIP	1.8K	5%	1/10W	R3565	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3517	1-216-809-11	METAL CHIP	100	5%	1/10W	R3566	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3518	1-216-809-11	METAL CHIP	100	5%	1/10W	R3567	1-216-819-11	METAL CHIP	680	5%	1/10W
R3519	1-216-864-11	SHORT CHIP									
R3520	1-218-708-11	METAL CHIP	4.7K	0.50%	1/10W	R3568	1-216-820-11	METAL CHIP	820	5%	1/10W
						R3569	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3521	1-216-817-11	METAL CHIP	470	5%	1/10W	R3570	1-216-839-11	METAL CHIP	33K	5%	1/10W
R3522	1-216-817-11	METAL CHIP	470	5%	1/10W	R3571	1-216-834-11	METAL CHIP	12K	5%	1/10W



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R3572	1-216-821-11	METAL CHIP	1K	5%	1/10W	C3330	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R3573	1-216-805-11	METAL CHIP	47	5%	1/10W	C3331	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R3580	1-215-857-71	METAL OXIDE	10	5%	1W	C3332	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R3582	1-216-817-11	METAL CHIP	470	5%	1/10W	C3334	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R3588	1-216-818-11	METAL CHIP	560	5%	1/10W	C3335	1-164-360-11	CERAMIC CHIP	0.1μF		16V
CRYSTAL						C3336	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
X3500	1-767-606-11	VIBRATOR, CRYSTAL				C3337	1-164-360-11	CERAMIC CHIP	0.1μF		16V
A-1404-846-A P (VAR) BOARD, MOUNTED						C3338	1-164-360-11	CERAMIC CHIP	0.1μF		16V
	4-382-854-11	SCREW (M3X10), P, SW (+)				C3339	1-126-965-91	ELECT	22μF	20%	50V
CAPACITOR						C3340	1-126-947-11	ELECT	47μF	20%	35V
C100	1-126-968-11	ELECT	100μF	20%	50V	C3341	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C102	1-126-947-11	ELECT	47μF	20%	35V	C3343	1-126-947-11	ELECT	47μF	20%	35V
C103	1-126-964-11	ELECT	10μF	20%	50V	C3390	1-104-665-11	ELECT	100μF	20%	25V
C104	1-126-967-11	ELECT	47μF	20%	50V	C3391	1-104-665-11	ELECT	100μF	20%	25V
C106	1-162-968-11	CERAMIC CHIP	0.0047μF	10%	50V	CONNECTOR					
C107	1-126-960-11	ELECT	1μF	20%	50V	* CN150	1-560-124-00	PLUG, CONNECTOR	(2.5MM)		4P
C109	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	* CN160	1-564-507-11	PLUG, CONNECTOR			4P
C110	1-165-176-11	CERAMIC CHIP	0.047μF	10%	16V	CN6600	1-695-915-11	TAB (CONTACT)			
C111	1-126-960-11	ELECT	1μF	20%	50V	DIODE					
C3300	1-115-156-11	CERAMIC CHIP	1μF		10V	D103	8-719-404-50	DIODE			MA111-TX
C3301	1-115-156-11	CERAMIC CHIP	1μF		10V	D104	8-719-404-50	DIODE			MA111-TX
C3302	1-115-156-11	CERAMIC CHIP	1μF		10V	D3301	8-719-404-50	DIODE			MA111-TX
C3303	1-126-947-11	ELECT	47μF	20%	35V	D3304	8-719-109-72	DIODE			RD3.9ESB2
C3304	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	IC					
C3305	1-164-360-11	CERAMIC CHIP	0.1μF		16V	IC3301	6-701-754-01	IC			M65665ASP
C3308	1-126-947-11	ELECT	47μF	20%	35V	IC3390	8-759-701-59	IC			NJM78M09FA
C3312	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	CHIP CONDUCTOR					
C3313	1-162-927-11	CERAMIC CHIP	100pF	5%	50V	JR001	1-216-864-11	SHORT CHIP			
C3316	1-126-947-11	ELECT	47μF	20%	35V	JR002	1-216-864-11	SHORT CHIP			
C3317	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	COIL					
C3318	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	L150	1-414-857-11	INDUCTOR			100μH
C3319	1-126-947-11	ELECT	47μF	20%	35V	L3300	1-414-267-21	INDUCTOR			10μH
C3320	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	L3301	1-410-682-31	INDUCTOR			470μH
C3321	1-113-619-11	CERAMIC CHIP	0.47μF		10V	L3302	1-414-267-21	INDUCTOR			10μH
C3322	1-164-373-11	CERAMIC CHIP	0.033μF		25V	L3303	1-414-267-21	INDUCTOR			10μH
C3323	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V	L3390	1-412-525-31	INDUCTOR			10μH
C3324	1-162-918-11	CERAMIC CHIP	18pF	5%	50V	TRANSISTOR					
C3327	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	Q151	8-729-424-02	TRANSISTOR			2SB709A-QRS-TX
C3328	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q152	8-729-422-27	TRANSISTOR			2SD601A-Q
C3329	1-164-315-11	CERAMIC CHIP	470pF	5%	50V	Q3300	8-729-422-27	TRANSISTOR			2SD601A-Q



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q3301	8-729-422-27	TRANSISTOR	2SD601A-Q			R3324	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3302	8-729-422-27	TRANSISTOR	2SD601A-Q			R3327	1-216-864-11	SHORT CHIP			
Q3304	6-550-409-01	TRANSISTOR	KSC2383-O			R3328	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3305	8-729-422-27	TRANSISTOR	2SD601A-Q			R3329	1-216-864-11	SHORT CHIP			
Q3307	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX								
Q3308	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3330	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3309	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX			R3331	1-216-821-11	METAL CHIP	1K	5%	1/10W
Q3310	8-729-422-27	TRANSISTOR	2SD601A-Q			R3335	1-215-908-00	METAL OXIDE	33	5%	3W
Q3312	8-729-422-27	TRANSISTOR	2SD601A-Q			R3336	1-216-809-11	METAL CHIP	100	5%	1/10W
						R3343	1-216-821-11	METAL CHIP	1K	5%	1/10W
	RESISTOR					R3346	1-216-821-11	METAL CHIP	1K	5%	1/10W
R100	1-216-809-11	METAL CHIP	100	5%	1/10W	R3347	1-216-833-11	METAL CHIP	10K	5%	1/10W
R101	1-216-809-11	METAL CHIP	100	5%	1/10W	R3348	1-216-833-11	METAL CHIP	10K	5%	1/10W
R103	1-216-837-11	METAL CHIP	22K	5%	1/10W	R3350	1-216-864-11	SHORT CHIP			
R104	1-216-839-11	METAL CHIP	33K	5%	1/10W	R3351	1-216-813-11	METAL CHIP	220	5%	1/10W
R105	1-216-809-11	METAL CHIP	100	5%	1/10W						
R106	1-216-817-11	METAL CHIP	470	5%	1/10W	R3354	1-216-863-11	METAL CHIP	3.3M	5%	1/10W
R107	1-216-818-11	METAL CHIP	560	5%	1/10W	R3359	1-216-864-11	SHORT CHIP			
R108	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3360	1-216-864-11	SHORT CHIP			
R112	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3361	1-216-864-11	SHORT CHIP			
R113	1-216-845-11	METAL CHIP	100K	5%	1/10W	R3362	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R114	1-216-857-11	METAL CHIP	1M	5%	1/10W	R3363	1-216-839-11	METAL CHIP	33K	5%	1/10W
R115	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3364	1-247-807-31	CARBON	100	5%	1/4W
R116	1-216-833-11	METAL CHIP	10K	5%	1/10W	R3365	1-247-807-31	CARBON	100	5%	1/4W
R117	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R3368	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3300	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3369	1-216-864-11	SHORT CHIP			
R3301	1-216-821-11	METAL CHIP	1K	5%	1/10W						
R3302	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3372	1-216-864-11	SHORT CHIP			
R3303	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3374	1-216-864-11	SHORT CHIP			
R3304	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3390	1-216-395-00	METAL OXIDE	3.3	5%	3W
R3305	1-216-841-11	METAL CHIP	47K	5%	1/10W						
R3306	1-216-837-11	METAL CHIP	22K	5%	1/10W	TUNER					
R3307	1-216-821-11	METAL CHIP	1K	5%	1/10W	TU150	8-598-594-30	TUNER, FSS BTF-FA421			
R3308	1-216-837-11	METAL CHIP	22K	5%	1/10W						
R3309	1-216-817-11	METAL CHIP	470	5%	1/10W	CRYSTAL					
R3310	1-216-841-11	METAL CHIP	47K	5%	1/10W	X3301	1-781-377-21	VIBRATOR, CRYSTAL			
R3311	1-216-819-11	METAL CHIP	680	5%	1/10W						
R3312	1-216-864-11	SHORT CHIP									
R3313	1-216-864-11	SHORT CHIP									
R3314	1-216-864-11	SHORT CHIP									
R3318	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R3319	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R3320	1-216-829-11	METAL CHIP	4.7K	5%	1/10W						
R3321	1-216-864-11	SHORT CHIP									
R3323	1-249-414-11	CARBON	560	5%	1/4W						



Due to the complexity of this board, performing component level field repairs is not recommended. If service is required, complete board replacement is the preferred repair method. Data is provided for reference only.

* A-1404-854-A Y BOARD, MOUNTED

CAPACITOR

C3000	1-126-947-11	ELECT	47μF	20%	35V
C3001	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V
C3002	1-126-947-11	ELECT	47μF	20%	35V
C3003	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V
C3004	1-126-947-11	ELECT	47μF	20%	35V




REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
C3005	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V	C3063	1-126-960-11	ELECT	1μF	20%	50V
C3006	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V	C3064	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V
C3007	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V			<u>DELAY LINE</u>			
C3008	1-126-947-11	ELECT	47μF	20%	35V	DL3000	1-234-821-11	Y DELAY LINE			
C3009	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V	DL3001	1-234-821-11	Y DELAY LINE			
C3010	1-126-947-11	ELECT	47μF	20%	35V			<u>FERRITE BEAD</u>			
C3011	1-126-947-11	ELECT	47μF	20%	35V	* FB3001	1-469-670-21	FERRITE	0μH		
C3012	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V	* FB3002	1-469-670-21	FERRITE	0μH		
C3013	1-164-227-11	CERAMIC CHIP	0.022μF	10%	25V			<u>IC</u>			
C3014	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V	IC3000	8-759-458-18	IC		TDA8501T	
C3015	1-125-891-11	CERAMIC CHIP	0.47μF	10%	10V	IC3001	8-759-443-11	IC		NJM2283M-TE1	
C3019	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V	IC3002	8-759-346-81	IC		NJM2257M(TE2)	
C3020	1-126-947-11	ELECT	47μF	20%	35V	IC3003	6-704-300-01	IC		ICS1578	
C3021	1-164-227-11	CERAMIC CHIP	0.022μF	10%	25V	IC3004	8-759-828-44	IC		NJM2870F33(TE2)	
C3023	1-126-947-11	ELECT	47μF	20%	35V			<u>COIL</u>			
C3025	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V	L3000	1-469-555-21	INDUCTOR	10μH		
C3026	1-126-947-11	ELECT	47μF	20%	35V	L3001	1-469-555-21	INDUCTOR	10μH		
C3027	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V	L3003	1-469-555-21	INDUCTOR	10μH		
C3028	1-164-227-11	CERAMIC CHIP	0.022μF	10%	25V	L3004	1-469-555-21	INDUCTOR	10μH		
C3029	1-126-947-11	ELECT	47μF	20%	35V	L3005	1-469-555-21	INDUCTOR	10μH		
C3033	1-115-467-11	CERAMIC CHIP	0.22μF	10%	10V	L3006	1-469-555-21	INDUCTOR	10μH		
C3034	1-125-837-91	CERAMIC CHIP	1μF	10%	6.3V			<u>TRANSISTOR</u>			
C3035	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V	Q3000	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3036	1-162-967-11	CERAMIC CHIP	0.0033μF	10%	50V	Q3001	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3037	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3002	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3038	1-126-960-11	ELECT	1μF	20%	50V	Q3003	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3039	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3004	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3040	1-126-964-11	ELECT	10μF	20%	50V	Q3005	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3047	1-165-176-11	CERAMIC CHIP	0.047μF	10%	16V	Q3006	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3048	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3007	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3049	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3008	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3050	1-162-907-11	CERAMIC CHIP	2pF	0.25pF	50V	Q3009	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3051	1-127-965-21	FILM CHIP	0.001μF	5%	50V	Q3010	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3052	1-127-956-21	FILM CHIP	0.1μF	5%	16V	Q3011	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3053	1-162-907-11	CERAMIC CHIP	2pF	0.25pF	50V	Q3012	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3054	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3013	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3055	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3014	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3056	1-164-217-11	CERAMIC CHIP	150pF	5%	50V	Q3015	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3057	1-164-217-11	CERAMIC CHIP	150pF	5%	50V	Q3016	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3058	1-126-947-11	ELECT	47μF	20%	35V	Q3017	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
C3059	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	Q3018	8-729-422-27	TRANSISTOR	2SD601A-Q		
C3060	1-126-947-11	ELECT	47μF	20%	35V						
C3061	1-107-826-11	CERAMIC CHIP	0.1μF	10%	16V						
C3062	1-115-416-11	CERAMIC CHIP	0.001μF	5%	25V						



REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q3019	8-729-422-27	TRANSISTOR	2SD601A-Q			R3040	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
	RESISTOR					R3041	1-218-692-11	METAL CHIP	1K	0.50%	1/10W
R3000	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3042	1-218-746-11	METAL CHIP	180K	0.50%	1/10W
R3001	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3043	1-216-864-11	SHORT CHIP			
R3002	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3044	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3003	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3045	1-216-864-11	SHORT CHIP			
R3004	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3046	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3005	1-218-686-11	METAL CHIP	560	0.50%	1/10W	R3047	1-216-840-11	METAL CHIP	39K	5%	1/10W
R3006	1-218-668-11	METAL CHIP	100	0.50%	1/10W	R3048	1-216-809-11	METAL CHIP	100	5%	1/10W
R3007	1-216-809-11	METAL CHIP	100	5%	1/10W	R3049	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3008	1-216-817-11	METAL CHIP	470	5%	1/10W	R3050	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3009	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3051	1-218-692-11	METAL CHIP	1K	0.50%	1/10W
R3010	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3052	1-216-809-11	METAL CHIP	100	5%	1/10W
R3011	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3053	1-218-692-11	METAL CHIP	1K	0.50%	1/10W
R3012	1-216-837-11	METAL CHIP	22K	5%	1/10W	R3054	1-218-672-11	METAL CHIP	150	0.50%	1/10W
R3013	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3055	1-216-864-11	SHORT CHIP			
R3014	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3056	1-216-817-11	METAL CHIP	470	5%	1/10W
R3015	1-216-864-11	SHORT CHIP				R3057	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3016	1-218-684-11	METAL CHIP	470	0.50%	1/10W	R3058	1-216-809-11	METAL CHIP	100	5%	1/10W
R3017	1-216-817-11	METAL CHIP	470	5%	1/10W	R3059	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3018	1-216-809-11	METAL CHIP	100	5%	1/10W	R3060	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3019	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3061	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3020	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3062	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3021	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3063	1-216-809-11	METAL CHIP	100	5%	1/10W
R3022	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3064	1-216-813-11	METAL CHIP	220	5%	1/10W
R3023	1-216-841-11	METAL CHIP	47K	5%	1/10W	R3065	1-216-817-11	METAL CHIP	470	5%	1/10W
R3024	1-216-837-11	METAL CHIP	22K	5%	1/10W	R3066	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3025	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3067	1-216-809-11	METAL CHIP	100	5%	1/10W
R3026	1-218-688-11	METAL CHIP	680	0.50%	1/10W	R3071	1-218-694-11	METAL CHIP	1.2K	0.50%	1/10W
R3027	1-218-688-11	METAL CHIP	680	0.50%	1/10W	R3072	1-218-660-91	METAL CHIP	47	0.50%	1/10W
R3028	1-218-680-11	METAL CHIP	330	0.50%	1/10W	R3073	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3029	1-216-809-11	METAL CHIP	100	5%	1/10W	R3074	1-218-716-11	METAL CHIP	10K	0.50%	1/10W
R3030	1-216-817-11	METAL CHIP	470	5%	1/10W	R3075	1-218-700-11	METAL CHIP	2.2K	0.50%	1/10W
R3031	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3076	1-218-740-11	METAL CHIP	100K	0.50%	1/10W
R3032	1-218-692-11	METAL CHIP	1K	0.50%	1/10W	R3077	1-216-855-11	METAL CHIP	680K	5%	1/10W
R3033	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3078	1-218-726-11	METAL CHIP	27K	0.50%	1/10W
R3034	1-216-817-11	METAL CHIP	470	5%	1/10W	R3079	1-218-724-11	METAL CHIP	22K	0.50%	1/10W
R3035	1-218-734-11	METAL CHIP	56K	0.50%	1/10W	R3080	1-218-706-11	METAL CHIP	3.9K	0.50%	1/10W
R3036	1-216-853-11	METAL CHIP	470K	5%	1/10W	R3081	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3037	1-216-821-11	METAL CHIP	1K	5%	1/10W	R3082	1-218-698-11	METAL CHIP	1.8K	0.50%	1/10W
R3038	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R3083	1-218-672-11	METAL CHIP	150	0.50%	1/10W
R3039	1-216-813-11	METAL CHIP	220	5%	1/10W	R3084	1-218-672-11	METAL CHIP	150	0.50%	1/10W
						R3085	1-218-730-11	METAL CHIP	39K	0.50%	1/10W
						R3087	1-216-864-11	SHORT CHIP			

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REF. NO.	PART NO.	DESCRIPTION	VALUES		
R3088	1-218-775-11	METAL CHIP	910K	0.50%	1/10W
R3089	1-240-913-91	RES-CHIP	3.9M	5%	1/10W
R3090	1-216-864-11	SHORT CHIP			
R3094	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3095	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3096	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3097	1-216-864-11	SHORT CHIP			
R3098	1-216-845-11	METAL CHIP	100K	5%	1/10W
CRYSTAL					
X3001	1-579-583-11	VIBRATOR, CERAMIC			
X3002	1-795-976-11	VIBRATOR, CRYSTAL			
HU					
A-1404-855-A HU (VAR) BOARD, MOUNTED					
CAPACITOR					
C2234	1-137-194-81	FILM	0.47µF	5%	50V
C2235	1-137-194-81	FILM	0.47µF	5%	50V
C2240	1-126-959-11	ELECT	0.47µF	20%	50V
C2241	1-126-959-11	ELECT	0.47µF	20%	50V
CONNECTOR					
CN1001	1-564-506-11	PLUG, CONNECTOR	3P		
CN1003	1-564-511-11	PLUG, CONNECTOR	8P		
DIODE					
D301	8-719-108-12	DIODE	RD9.1EW		
D302	8-719-108-12	DIODE	RD9.1EW		
D2235	8-719-108-12	DIODE	RD9.1EW		
D2236	8-719-108-12	DIODE	RD9.1EW		
JACK					
J2231	1-794-048-11	JACK, PIN	3P		
J2232	1-694-242-11	TERMINAL, S			
RESISTOR					
R1001	1-249-425-11	CARBON	4.7K	5%	1/4W
R1002	1-249-420-11	CARBON	1.8K	5%	1/4W
R1003	1-249-417-11	CARBON	1K	5%	1/4W
R2008	1-249-425-11	CARBON	4.7K	5%	1/4W
R2009	1-249-420-11	CARBON	1.8K	5%	1/4W
R2010	1-249-417-11	CARBON	1K	5%	1/4W
R2011	1-249-416-11	CARBON	820	5%	1/4W
R2235	1-249-409-11	CARBON	220	5%	1/4W


REF. NO.	PART NO.	DESCRIPTION	VALUES		
R2236	1-249-441-11	CARBON	100K	5%	1/4W
R2237	1-249-409-11	CARBON	220	5%	1/4W
R2238	1-249-441-11	CARBON	100K	5%	1/4W
R2239	1-247-804-11	CARBON	75	5%	1/4W
R2240	1-247-804-11	CARBON	75	5%	1/4W
R2241	1-247-804-11	CARBON	75	5%	1/4W
SWITCH					
S1007	1-762-816-11	SWITCH, TACTILE			
S1008	1-762-816-11	SWITCH, TACTILE			
S2001	1-692-431-21	SWITCH, TACTILE			
S2002	1-692-431-21	SWITCH, TACTILE			
S2003	1-692-431-21	SWITCH, TACTILE			
S2004	1-692-431-21	SWITCH, TACTILE			
S2005	1-692-431-21	SWITCH, TACTILE			
HD					
A-1404-896-A HD BOARD, MOUNTED (SPACER BOARD) (KV-32FV310/36FV310 ONLY)					
D					
A-1404-852-A D (VAR) BOARD, MOUNTED (KV-27FV310/29FV310(N) ONLY)					
A-1404-897-A D (VAR) BOARD, MOUNTED (KV-32FV310/36FV310 ONLY)					
A-1405-114-A D (VAR) BOARD, MOUNTED (KV-27FV310(S) ONLY)					
The high-voltage leads associated with the FBT on the D board are not included and must be ordered separately. Order the following leads when requesting this D board:					
⚠	1-251-374-14	CAP ASSY, HIGH-VOLTAGE (KV-27FV310/29FV310 ONLY)			
⚠	1-251-715-22	CAP ASSY, HIGH-VOLTAGE (KV-32FV310 ONLY)			
⚠	1-251-715-32	CAP ASSY, HIGH-VOLTAGE (KV-36FV310 ONLY)			
⚠	1-900-805-19	WIRE ASSY, FOCUS HV			
⚠	1-900-805-22	CONNECTOR ASSY, G2 HV			
	3-710-578-01	COVER, VOLUME, 6 MOLD			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
CAPACITOR					
C8001	1-126-964-11	ELECT	10µF	20%	50V
C8002	1-126-964-11	ELECT	10µF	20%	50V
C8003	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8004	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C8006	1-126-960-11	ELECT	1µF	20%	50V


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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
C8007	1-162-971-11	CERAMIC CHIP	0.001 μ F	10%	50V	C8425	1-107-826-11	CERAMIC CHIP	0.1 μ F	10%	16V
C8009	1-104-665-11	ELECT	100 μ F	20%	25V	C8426	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C8012	1-126-947-11	ELECT	47 μ F	20%	35V	C8427	1-126-947-11	ELECT	47 μ F	20%	35V
C8015	1-126-947-11	ELECT	47 μ F	20%	35V	C8428	1-126-943-11	ELECT	2200 μ F	20%	25V
C8016	1-130-495-00	MYLAR	0.1 μ F	5%	50V	C8430	1-126-960-11	ELECT	1 μ F	20%	50V
C8017	1-126-964-11	ELECT	10 μ F	20%	50V	C8512	1-129-709-91	FILM	0.0039 μ F	5%	630V
C8018	1-126-964-11	ELECT	10 μ F	20%	50V		(KV-27FV310/29FV310(N) ONLY)				
C8020	1-130-495-00	MYLAR	0.1 μ F	5%	50V	C8512	1-129-928-00	FILM	0.0027 μ F	10%	630V
C8021	1-162-971-11	CERAMIC CHIP	0.001 μ F	10%	50V		(KV-32FV310/36FV310 ONLY)				
C8024	1-126-967-11	ELECT	47 μ F	20%	50V	C8512	1-136-558-11	FILM	0.0039 μ F	5%	630V
C8025	1-126-947-11	ELECT	47 μ F	20%	35V		(KV-29FV310(S) ONLY)				
C8027	1-130-495-00	MYLAR	0.1 μ F	5%	50V	C8542	1-102-244-00	CERAMIC	220pF		500V
C8028	1-162-966-11	CERAMIC CHIP	0.0022 μ F	10%	50V		(KV-27FV310/29FV310 ONLY)				
C8030	1-162-970-11	CERAMIC CHIP	0.01 μ F	10%	25V	C8544	1-129-718-00	FILM	0.022 μ F	5%	630V
C8031	1-128-551-11	ELECT	22 μ F	20%	63V	C8550	1-102-002-00	CERAMIC	680pF		500V
C8032	1-136-813-11	FILM	680pF	5%	100V		(KV-27FV310/29FV310 ONLY)				
C8033	1-126-964-11	ELECT	10 μ F	20%	50V	C8550	1-164-645-11	CERAMIC	1000pF		500V
C8035	1-162-115-00	CERAMIC	330pF	10%	1KV		(KV-32FV310/36FV310 ONLY)				
C8036	1-162-115-00	CERAMIC	330pF	10%	1KV	C8551	1-109-954-11	ELECT	0.47 μ F	20%	160V
C8037	1-165-953-11	FILM	47000pF	3%	800V	C8552	1-102-244-00	CERAMIC	220pF	10%	500V
C8040	1-126-969-11	ELECT	220 μ F	20%	50V	C8573	1-104-665-11	ELECT	100 μ F	20%	25V
C8041	1-130-495-00	MYLAR	0.1 μ F	5%	50V						
C8042	1-136-189-00	MYLAR	0.1 μ F	10%	250V		CONNECTOR				
C8045	1-130-471-00	MYLAR	0.001 μ F	5%	50V	CN8004	1-695-915-11	TAB (CONTACT)			
C8048	1-130-495-00	MYLAR	0.1 μ F	5%	50V	* CN8402	1-564-510-11	PLUG, CONNECTOR			7P
C8063	1-165-607-91	FILM	10000pF	3%	800V	* CN8601	1-580-843-11	PIN, CONNECTOR (POWER)			
C8065	1-127-715-91	CERAMIC CHIP	0.22 μ F	10%	16V	CN8603	1-564-320-00	PIN, CONNECTOR(3.96MM PITCH)			2P
C8073	1-162-962-11	CERAMIC CHIP	470pF	10%	50V	* CN8604	1-564-511-11	PLUG, CONNECTOR			8P
C8075	1-162-970-11	CERAMIC CHIP	0.01 μ F	10%	25V	* CN8605	1-564-507-11	PLUG, CONNECTOR			4P
C8076	1-126-963-11	ELECT	4.7 μ F	20%	50V						
C8077	1-162-970-11	CERAMIC CHIP	0.01 μ F	10%	25V		DIODE				
C8080	1-117-228-71	MYLAR	2.2 μ F	10%	450V	D5007	8-719-404-50	DIODE	MA111-TX		
C8139	1-162-966-11	CERAMIC CHIP	0.0022 μ F	10%	50V	D8001	8-719-404-50	DIODE	MA111-TX		
C8301	1-104-665-11	ELECT	100 μ F	20%	25V	D8003	8-719-404-50	DIODE	MA111-TX		
C8302	1-162-970-11	CERAMIC CHIP	0.01 μ F	10%	25V	D8005	8-719-404-50	DIODE	MA111-TX		
C8407	1-125-891-11	CERAMIC CHIP	0.47 μ F	10%	10V	D8006	8-719-063-74	DIODE	D1NL20U-TR2		
C8411	1-126-965-91	ELECT	22 μ F	20%	50V	D8007	8-719-404-50	DIODE	MA111-TX		
C8412	1-137-194-81	FILM	0.47 μ F	5%	50V	D8009	8-719-083-83	DIODE	UDZS-TE17-15B		
C8413	1-100-120-51	ELECT	1000 μ F	20%	35V	D8010	8-719-979-64	DIODE	μ F4005PKG23		
C8415	1-126-963-11	ELECT	4.7 μ F	20%	50V	D8011	8-719-110-41	DIODE	RD15ESB2		
C8420	1-125-891-11	CERAMIC CHIP	0.47 μ F	10%	10V	D8012	8-719-110-41	DIODE	RD15ESB2		
C8421	1-125-891-11	CERAMIC CHIP	0.47 μ F	10%	10V	D8013	8-719-083-83	DIODE	UDZS-TE17-15B		
C8423	1-165-176-11	CERAMIC CHIP	0.047 μ F	10%	16V	D8014	8-719-083-83	DIODE	UDZS-TE17-15B		
C8424	1-162-969-11	CERAMIC CHIP	0.0068 μ F	10%	25V	D8015	8-719-404-50	DIODE	MA111-TX		
						D8019	8-719-109-85	DIODE	RD5.1ESB2		
						\triangle D8022	8-719-063-74	DIODE	D1NL20U-TR2		


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NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.





























REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
D8023	8-719-109-85	DIODE	RD5.1ESB2	COIL			
D8024	8-719-109-93	DIODE	RD6.2ESB2	L8001	1-414-189-31	INDUCTOR	100μH
D8026	8-719-404-50	DIODE	MA111-TX	L8002	1-428-950-11	INDUCTOR	125μH
D8030	8-719-083-66	DIODE	UDZSTE-1718B	L8504	1-406-677-11	INDUCTOR	10MH
D8034	8-719-109-85	DIODE	RD5.1ESB2	L8600	1-406-977-21	INDUCTOR	100μH
D8140	8-719-404-50	DIODE	MA111-TX	PHOTO COUPLER			
D8301	8-719-069-54	DIODE	UDZSTE-175.1B	PH8001	8-749-016-81	PHOTO COUPLER	PC123Y22
D8400	8-719-991-33	DIODE	1SS133T-77	 PH8003	8-749-016-81	PHOTO COUPLER	PC123Y22
D8510	8-719-081-93	DIODE	1N4937/23	 PH8004	8-749-016-81	PHOTO COUPLER	PC123Y22
D8511	8-719-970-87	DIODE	ERA38-06	IC LINK			
D8512	8-719-970-87	DIODE	ERA38-06	PS8401	1-576-337-21	IC LINK	2.7A 50V
D8513	8-719-110-41	DIODE	RD15ESB2	TRANSISTOR			
FERRITE BEAD				Q8003	8-729-422-27	TRANSISTOR	2SD601A-Q
FB8001	1-412-911-11	FERRITE	0μH	Q8004	8-729-422-27	TRANSISTOR	2SD601A-Q
FB8002	1-412-911-11	FERRITE	0μH	Q8007	8-729-422-27	TRANSISTOR	2SD601A-Q
FB8504	1-410-397-21	FERRITE	1.1μH	Q8008	8-729-422-27	TRANSISTOR	2SD601A-Q
IC				Q8011	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
 IC8001	8-759-700-07	IC	NJM2903M	Q8013	8-729-052-32	TRANSISTOR	IRFIB7N50A-LF31
IC8002	8-759-670-30	IC	MCZ3001D	Q8014	8-729-052-32	TRANSISTOR	IRFIB7N50A-LF31
 IC8004	8-759-701-01	IC	NJM2904M	Q8021	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
 IC8005	8-759-198-31	IC	UPC1093J-1-T	Q8028	8-729-422-27	TRANSISTOR	2SD601A-Q
IC8006	8-759-700-07	IC	NJM2903M	Q8034	8-729-422-27	TRANSISTOR	2SD601A-Q
 IC8104	8-759-586-17	IC	TL1431CZ-AP	Q8035	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
IC8401	6-704-065-01	IC	TFA9844J	Q8400	8-729-120-28	TRANSISTOR	2SC1623-L5L6
IC8402	8-759-100-96	IC	UPC4558G2	Q8401	8-729-120-28	TRANSISTOR	2SC1623-L5L6
CHIP CONDUCTOR				Q8507	8-729-043-95	TRANSISTOR	2SC3840(3)
JR8002	1-216-864-11	SHORT CHIP		RESISTOR			
JR8005	1-216-864-11	SHORT CHIP		R8001	1-216-809-11	METAL CHIP	100 5% 1/10W
JR8006	1-216-864-11	SHORT CHIP		R8002	1-249-417-11	CARBON	1K 5% 1/4W
JR8007	1-216-864-11	SHORT CHIP		R8003	1-216-837-11	METAL CHIP	22K 5% 1/10W
JR8008	1-216-864-11	SHORT CHIP		R8004	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
JR8009	1-216-864-11	SHORT CHIP		R8005	1-216-837-11	METAL CHIP	22K 5% 1/10W
JR8010	1-216-864-11	SHORT CHIP		R8006	1-219-512-11	METAL	2.2M 5% 1/2W
JR8011	1-216-864-11	SHORT CHIP		R8007	1-219-512-11	METAL	2.2M 5% 1/2W
JR8012	1-216-864-11	SHORT CHIP		 R8009	1-218-877-11	METAL CHIP	18K 0.5% 1/10W
JR8100	1-216-864-11	SHORT CHIP		(KV-27FV310/29FV310 ONLY)			
JR8101	1-216-864-11	SHORT CHIP		R8011	1-216-849-11	METAL CHIP	220K 5% 1/10W
JR8102	1-216-864-11	SHORT CHIP		R8012	1-249-419-11	CARBON	1.5K 5% 1/4W
JR8103	1-216-864-11	SHORT CHIP		R8013	1-216-833-11	METAL CHIP	10K 5% 1/10W
				 R8014	1-218-847-11	METAL CHIP	1K 0.50% 1/10W
				 R8015	1-218-855-11	METAL CHIP	2.2K 0.50% 1/10W


NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.








REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R8016	1-247-843-11 CARBON	3.3K	5%	1/4W	R8057	1-218-874-11	METAL CHIP	13K	0.50%	1/10W
	R8017	1-218-857-11 METAL CHIP (KV-27FV310/29FV310 ONLY)	2.7K	0.50%	1/10W	R8058	1-249-393-11	CARBON	10	5%	1/4W
	R8017	1-218-858-11 METAL CHIP (KV-32FV310/36FV310 ONLY)	3K	0.50%	1/10W	R8059	1-216-864-11	SHORT CHIP			
	R8019	1-218-895-11 METAL CHIP	100K	0.50%	1/10W	R8060	1-216-817-11	METAL CHIP	470	5%	1/10W
	R8020	1-216-833-11 METAL CHIP	10K	5%	1/10W	R8061	1-249-393-11	CARBON	10	5%	1/4W
	R8021	1-218-847-11 METAL CHIP (KV-32FV310/36FV310 ONLY)	1K	0.50%	1/10W	R8062	1-216-833-11	METAL CHIP	10K	5%	1/10W
	R8021	1-218-877-11 METAL CHIP (KV-27FV310/29FV310 ONLY)	18K	0.50%	1/10W	R8063	1-216-833-11	METAL CHIP	10K	5%	1/10W
	R8022	1-216-833-11 METAL CHIP	10K	5%	1/10W	R8066	1-216-821-11	METAL CHIP	1K	5%	1/10W
	R8024	1-216-833-11 METAL CHIP	10K	5%	1/10W	R8069	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
	R8027	1-218-891-11 METAL CHIP	68K	0.50%	1/10W	R8070	1-243-979-71	METAL OXIDE	0.1	5%	2W
	R8029	1-218-891-11 METAL CHIP	68K	0.50%	1/10W		R8072	1-249-377-11 CARBON	0.47	5%	1/4W
	R8030	1-218-895-11 METAL CHIP	100K	0.50%	1/10W		R8076	1-240-931-91 METAL	330	5%	0.5W
	R8031	1-218-895-11 METAL CHIP	100K	0.50%	1/10W		R8078	1-218-897-11 METAL CHIP	120K	0.50%	1/10W
	R8034	1-216-857-11 METAL CHIP	1M	5%	1/10W		R8079	1-249-431-11 CARBON	15K	5%	1/4W
	R8035	1-218-861-11 METAL CHIP	3.9K	0.50%	1/10W		R8082	1-216-863-11 METAL CHIP	3.3M	5%	1/10W
	R8036	1-215-421-00 METAL	1K	1%	1/4W		R8085	1-219-749-91 METAL	10K	5%	1/2W
	R8037	1-215-447-00 METAL	12K	1%	1/4W		R8086	1-219-751-91 METAL	47K	5%	1/2W
	R8038	1-215-447-00 METAL	12K	1%	1/4W		R8087	1-216-864-11 SHORT CHIP			
	R8039	1-215-447-00 METAL	12K	1%	1/4W		R8088	1-216-833-11 METAL CHIP	10K	5%	1/10W
	R8040	1-215-433-00 METAL (KV-32FV310/36FV310 ONLY)	3.3K	1%	1/4W		R8090	1-216-833-11 METAL CHIP	10K	5%	1/10W
	R8040	1-215-443-00 METAL (KV-27FV310/29FV310 ONLY)	8.2K	1%	1/4W		R8091	1-215-485-00 METAL	470K	1%	1/4W
	R8041	1-216-864-11 SHORT CHIP					R8095	1-215-485-00 METAL	470K	1%	1/4W
	R8043	1-215-447-00 METAL	12K	1%	1/4W		R8096	1-216-864-11 SHORT CHIP			
	R8045	1-216-857-11 METAL CHIP	1M	5%	1/10W		R8097	1-216-797-11 METAL CHIP	10	5%	1/10W
	R8046	1-218-843-11 METAL CHIP (KV-27FV310/29FV310 ONLY)	680	0.50%	1/10W		R8106	1-249-377-11 CARBON	0.47	5%	1/4W
	R8046	1-218-847-11 METAL CHIP (KV-32FV310/36FV310 ONLY)	1K	0.50%	1/10W		R8135	1-218-867-11 METAL CHIP	6.8K	0.50%	1/10W
	R8049	1-218-823-11 METAL CHIP	100	0.50%	1/10W		R8136	1-216-825-11 METAL CHIP	2.2K	5%	1/10W
	R8050	1-211-981-11 METAL CHIP	33	0.50%	1/10W		R8137	1-216-821-11 METAL CHIP	1K	5%	1/10W
	R8051	1-202-933-61 FUSIBLE	0.1	10%	1/2W		R8138	1-216-857-11 METAL CHIP	1M	5%	1/10W
	R8052	1-218-873-11 METAL CHIP (KV-32FV310/36FV310 ONLY)	12K	0.50%	1/10W		R8144	1-216-849-11 METAL CHIP	220K	5%	1/10W
	R8052	1-218-887-11 METAL CHIP (KV-27FV310/29FV310 ONLY)	47K	0.50%	1/10W		R8145	1-216-841-11 METAL CHIP	47K	5%	1/10W
	R8054	1-245-478-21 METAL	470K	1%	1/4W		R8146	1-216-821-11 METAL CHIP	1K	5%	1/10W
	R8055	1-245-478-21 METAL	470K	1%	1/4W		R8158	1-216-809-11 METAL CHIP	100	5%	1/10W
	R8056	1-218-869-11 METAL CHIP	8.2K	0.50%	1/10W		R8159	1-216-834-11 METAL CHIP	12K	5%	1/10W
							R8160	1-216-853-11 METAL CHIP	470K	5%	1/10W
							R8161	1-218-867-11 METAL CHIP	6.8K	0.50%	1/10W
							R8200	1-216-833-11 METAL CHIP	10K	5%	1/10W
							R8203	1-216-833-11 METAL CHIP	10K	5%	1/10W
							R8206	1-216-817-11 METAL CHIP	470	5%	1/10W
							R8301	1-216-837-11 METAL CHIP	22K	5%	1/10W
							R8303	1-216-821-11 METAL CHIP	1K	5%	1/10W
							R8304	1-218-853-11 METAL CHIP	1.8K	0.50%	1/10W
							R8305	1-218-865-11 METAL CHIP	5.6K	0.50%	1/10W
							R8401	1-249-429-11 CARBON	10K	5%	1/4W

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.




REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R8404	1-216-837-11	METAL CHIP	22K	5%	1/10W	TRANSFORMER					
R8405	1-216-841-11	METAL CHIP	47K	5%	1/10W		T8001	1-453-387-21	FBT ASSY NX-6020//M3J4		
R8408	1-216-823-11	METAL CHIP	1.5K	5%	1/10W			(KV-27FV310/29FV310/32FV310 ONLY)			
R8420	1-249-433-11	CARBON	22K	5%	1/4W			T8001	1-453-389-31	FBT ASSY NX-6020//M3C4	
R8421	1-249-433-11	CARBON	22K	5%	1/4W			(KV-36FV310 ONLY)			
R8422	1-216-833-11	METAL CHIP	10K	5%	1/10W		T8504	1-433-533-12	TRANSFORMER, FERRITE (DFT)		
R8423	1-216-840-11	METAL CHIP	39K	5%	1/10W						
R8424	1-216-840-11	METAL CHIP	39K	5%	1/10W						
R8425	1-216-840-11	METAL CHIP	39K	5%	1/10W						
R8426	1-216-817-11	METAL CHIP	470	5%	1/10W						
R8427	1-216-817-11	METAL CHIP	470	5%	1/10W	*	A-1404-848-A V (VAR) BOARD, MOUNTED				
R8428	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	*	(KV-27FV310/29FV310 ONLY)				
R8429	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	*	A-1404-895-A V (VAR) BOARD, MOUNTED				
R8430	1-218-847-11	METAL CHIP	1K	0.50%	1/10W		(KV-32FV310 ONLY)				
R8431	1-218-843-11	METAL CHIP	680	0.50%	1/10W		A-1404-955-A V (VAR) BOARD, MOUNTED				
							(KV-36FV310 ONLY)				
							4-382-854-11	SCREW (M3X10), P, SW (+)			
R8432	1-216-864-11	SHORT CHIP				CAPACITOR					
R8434	1-218-895-11	METAL CHIP	100K	0.50%	1/10W	C802	1-126-964-11	ELECT	10μF	20%	50V
R8488	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	C803	1-137-378-11	MYLAR	0.22μF	5%	50V
R8541	1-215-922-11	METAL OXIDE	6.8K	5%	3W	C804	1-137-378-11	MYLAR	0.22μF	5%	50V
R8542	1-215-921-11	METAL OXIDE	4.7K	5%	3W	C805	1-131-985-21	FILM	0.033μF	5%	250V
	(KV-32FV310/36FV310 ONLY)					C808	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R8542	1-216-486-00	METAL OXIDE	8.2K	5%	3W	C809	1-128-934-91	CERAMIC CHIP	0.33μF	20%	10V
	(KV-27FV310/29FV310 ONLY)					C810	1-130-495-00	MYLAR	0.1μF	5%	50V
R8548	1-215-921-11	METAL OXIDE	4.7K	5%	3W	C811	1-129-725-00	FILM	0.082μF	5%	400V
	(KV-32FV310/36FV310 ONLY)					C812	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
R8548	1-216-486-00	METAL OXIDE	8.2K	5%	3W	C813	1-126-933-11	ELECT	100μF	20%	16V
	(KV-27FV310/29FV310 ONLY)										
R8554	1-215-876-00	METAL OXIDE	15K	5%	1W	C821	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
	(KV-27FV310/29FV310 ONLY)					C823	1-130-967-00	FILM	0.0027μF	5%	50V
R8554	1-215-894-11	METAL OXIDE	2.2K	5%	2W	C824	1-165-176-11	CERAMIC CHIP	0.047μF	10%	16V
	(KV-32FV310/36FV310 ONLY)					C826	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
R8555	1-249-441-11	CARBON	100K	5%	1/4W	C862	1-126-964-11	ELECT	10μF	20%	50V
R8556	1-249-441-11	CARBON	100K	5%	1/4W	C901	1-107-667-11	ELECT	2.2μF	20%	400V
R8557	1-249-441-11	CARBON	100K	5%	1/4W	C902	1-107-364-11	MYLAR	0.01μF	10%	200V
R8560	1-215-922-11	METAL OXIDE	6.8K	5%	3W	C903	1-126-935-11	ELECT	470μF	20%	16V
						C904	1-130-471-00	MYLAR	0.001μF	5%	50V
						C905	1-107-364-11	MYLAR	0.01μF	10%	200V
VARIABLE RESISTOR						C906	1-130-471-00	MYLAR	0.001μF	5%	50V
 	RV8002	1-225-627-91	RES, VAR, ADJ, CERMET	2K		C907	1-107-963-11	ELECT	33μF	20%	250V
SPARK GAP						C908	1-126-935-11	ELECT	470μF	20%	16V
SG8002	1-517-499-21	GAP, SPARK				C909	1-104-999-11	MYLAR	0.1μF	5%	200V
						C910	1-104-999-11	MYLAR	0.1μF	5%	200V



REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
C911	1-126-933-11	ELECT	100μF 20% 16V	Q902	6-550-247-01	TRANSISTOR	KTA1659A
C912	1-126-933-11	ELECT	100μF 20% 16V	Q903	8-729-422-27	TRANSISTOR	2SD601A-Q
C913	1-102-074-00	CERAMIC	0.001μF 10% 50V	Q904	8-729-422-27	TRANSISTOR	2SD601A-Q
C914	1-130-491-00	MYLAR	0.047μF 5% 50V	Q905	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
C930	1-126-935-11	ELECT	470μF 20% 16V	Q906	8-729-120-28	TRANSISTOR	2SC1623-L5L6
C931	1-126-935-11	ELECT	470μF 20% 16V	Q907	8-729-120-28	TRANSISTOR	2SC1623-L5L6
CONNECTOR				Q908	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
* CN901	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)	10P	RESISTOR			
* CN902	1-770-723-11	CONNECTOR, BOARD TO BOARD	8P	R809	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
DIODE					(KV-27FV310/29FV310 ONLY)		
D804	8-719-074-25	DIODE	PG104R	R809	1-216-832-11	METAL CHIP	8.2K 5% 1/10W
D805	8-719-991-33	DIODE	1SS133T-77		(KV-32FV310/36FV310 ONLY)		
D806	8-719-991-33	DIODE	1SS133T-77	R811	1-249-393-11	CARBON	10 5% 1/4W
D807	8-719-210-21	DIODE	11EQS04				
D808	8-719-991-33	DIODE	1SS133T-77	R814	1-215-862-11	METAL OXIDE	68 5% 1W
					(KV-32FV310/36FV310 ONLY)		
D813	8-719-991-33	DIODE	1SS133T-77	R815	1-215-862-11	METAL OXIDE	68 5% 1W
D901	8-719-924-11	DIODE	MTZJ-T-77-22	R817	1-218-728-11	METAL CHIP	33K 0.50% 1/10W
D902	8-719-924-11	DIODE	MTZJ-T-77-22		(KV-32FV310/36FV310 ONLY)		
D903	8-719-991-33	DIODE	1SS133T-77	R817	1-218-732-11	METAL CHIP	47K 0.50% 1/10W
D905	8-719-510-02	DIODE	D1NS4		(KV-27FV310/29FV310 ONLY)		
D906	8-719-404-50	DIODE	MA111-TX	R818	1-216-809-11	METAL CHIP	100 5% 1/10W
D907	8-719-404-50	DIODE	MA111-TX	R819	1-216-841-11	METAL CHIP	47K 5% 1/10W
D908	8-719-404-50	DIODE	MA111-TX	R820	1-216-837-11	METAL CHIP	22K 5% 1/10W
IC					(KV-32FV310/36FV310 ONLY)		
IC801	6-701-598-01	IC	UPC5023CS-184	R820	1-216-839-11	METAL CHIP	33K 5% 1/10W
CHIP CONDUCTOR					(KV-27FV310/29FV310 ONLY)		
JR802	1-216-864-11	SHORT CHIP		R821	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
JR803	1-216-864-11	SHORT CHIP			(KV-27FV310/29FV310 ONLY)		
COIL				R821	1-218-714-11	METAL CHIP	8.2K 0.50% 1/10W
					(KV-32FV310/36FV310 ONLY)		
L801	1-406-989-21	INDUCTOR	10MH	R822	1-216-841-11	METAL CHIP	47K 5% 1/10W
L802	1-419-633-11	INDUCTOR	10MH	R824	1-218-740-11	METAL CHIP	100K 0.50% 1/10W
L803	1-412-529-81	INDUCTOR	22μH	R825	1-216-845-11	METAL CHIP	100K 5% 1/10W
L901	1-412-528-11	INDUCTOR	18μH	R826	1-249-421-11	CARBON	2.2K 5% 1/4W
TRANSISTOR				R827	1-218-708-11	METAL CHIP	4.7K 0.50% 1/10W
Q805	6-550-106-01	TRANSISTOR	KTB764				
Q807	8-729-931-45	TRANSISTOR	IRF614	R828	1-218-728-11	METAL CHIP	33K 0.50% 1/10W
Q808	6-550-106-01	TRANSISTOR	KTB764	R829	1-216-853-11	METAL CHIP	470K 5% 1/10W
Q812	8-729-026-39	TRANSISTOR	2SA933AS-QT	R833	1-218-710-11	METAL CHIP	5.6K 0.50% 1/10W
Q901	8-729-053-87	TRANSISTOR	KTC4370A		(KV-27FV310/29FV310 ONLY)		
				R833	1-218-712-11	METAL CHIP	6.8K 0.50% 1/10W
					(KV-32FV310/36FV310 ONLY)		
				R834	1-218-700-11	METAL CHIP	2.2K 0.50% 1/10W
					(KV-32FV310/36FV310 ONLY)		


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REF. NO.	PART NO.	DESCRIPTION	VALUES		
R834	1-218-706-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	3.9K	0.50%	1/10W
R837	1-218-714-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	8.2K	0.50%	1/10W
R840	1-216-824-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	1.8K	5%	1/10W
R840	1-218-700-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	2.2K	0.50%	1/10W
R841	1-216-837-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	22K	5%	1/10W
R841	1-218-712-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	6.8K	0.50%	1/10W
R842	1-218-700-11	METAL CHIP	2.2K	0.50%	1/10W
R855	1-218-706-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	3.9K	0.50%	1/10W
R855	1-218-714-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	8.2K	0.50%	1/10W
R856	1-218-712-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	6.8K	0.50%	1/10W
R856	1-218-716-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	10K	0.50%	1/10W
R857	1-218-716-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	10K	0.50%	1/10W
R857	1-218-724-11	METAL CHIP	22K	0.50%	1/10W
R860	1-218-716-11	METAL CHIP	10K	0.50%	1/10W
R864	1-218-668-11	METAL CHIP	100	0.50%	1/10W
R866	1-249-438-11	CARBON	56K	5%	1/4W
R870	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R876	1-216-821-11	METAL CHIP	1K	5%	1/10W
R890	1-218-712-11 (KV-32FV310/36FV310 ONLY)	METAL CHIP	6.8K	0.50%	1/10W
R890	1-218-736-11 (KV-27FV310/29FV310 ONLY)	METAL CHIP	68K	0.50%	1/10W
R893	1-216-839-11	METAL CHIP	33K	5%	1/10W
R901	1-249-405-11	CARBON	100	5%	1/4W
R902	1-249-385-11	CARBON	2.2	5%	1/4W
R903	1-249-414-11	CARBON	560	5%	1/4W
R904	1-249-432-11	CARBON	18K	5%	1/4W
R905	1-249-421-11	CARBON	2.2K	5%	1/4W
R906	1-249-432-11	CARBON	18K	5%	1/4W
R907	1-249-385-11	CARBON	2.2	5%	1/4W
R908	1-249-414-11	CARBON	560	5%	1/4W
R909	1-260-316-51	CARBON	100	5%	1/2W


REF. NO.	PART NO.	DESCRIPTION	VALUES		
R910	1-215-915-11	METAL OXIDE	470	5%	3W
R911	1-215-405-00	METAL	220	1%	1/4W
R912	1-249-407-11	CARBON	150	5%	1/4W
R913	1-215-397-00	METAL	100	1%	1/4W
R914	1-249-416-11	CARBON	820	5%	1/4W
R915	1-249-425-11	CARBON	4.7K	5%	1/4W
R917	1-249-425-11	CARBON	4.7K	5%	1/4W
R918	1-249-401-11	CARBON	47	5%	1/4W
R919	1-249-401-11	CARBON	47	5%	1/4W
R921	1-249-429-11	CARBON	10K	5%	1/4W
R922	1-249-397-11	CARBON	22	5%	1/4W
R923	1-249-401-11	CARBON	47	5%	1/4W
R930	1-216-864-11	SHORT CHIP			
R931	1-249-421-11	CARBON	2.2K	5%	1/4W
R932	1-218-696-11	METAL CHIP	1.5K	0.50%	1/10W
R933	1-216-864-11	SHORT CHIP			
R935	1-249-405-11	CARBON	100	5%	1/4W
R938	1-216-864-11	SHORT CHIP			
<div>GK</div> <div>* A-1404-844-A GK (VAR) BOARD, MOUNTED (KV-27FV310/29FV310(N)/32FV310 ONLY)</div> <div>* A-1404-956-A GK (VAR) BOARD, MOUNTED (KV-36FV310 ONLY)</div> <div>* A-1405-113-A GK (VAR) BOARD, MOUNTED (KV-29FV310(S) ONLY)</div> <div>1-533-223-11 FUSE HOLDER 0A 0V</div> <div>4-374-846-11 COVER, CAPACITOR, CAP TYPE</div> <div>4-382-854-11 SCREW (M3X10), P, SW (+)</div> <div>CAPACITOR</div> <div>C501 1-165-529-11 MYLAR 0.22μF 10 275V</div> <div>C600 1-117-703-11 CERAMIC 0.0047μF 250V (KV-29FV310(S) ONLY)</div> <div>⚠ C601 1-165-529-11 MYLAR 0.22μF 10 275V</div> <div>C602 1-162-970-11 CERAMIC CHIP 0.01μF 10% 25V</div> <div>⚠ C603 1-165-529-11 MYLAR 0.22μF 10 275V</div> <div>C604 1-164-625-11 CERAMIC 680pF 10% 500V</div> <div>⚠ C608 1-119-912-51 CERAMIC 0.001μF 20% 125V</div> <div>C609 1-164-625-11 CERAMIC 680pF 10% 500V</div> <div>C613 1-117-214-11 CERAMIC 0.001μF 10% 2KV (KV-29FV310(S) ONLY)</div> <div>C614 1-117-214-11 CERAMIC 0.001μF 10% 2KV (KV-29FV310(S) ONLY)</div>					


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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
C615	1-117-214-11	CERAMIC (KV-29FV310(S) ONLY)	0.001μF	10%	2KV	C1406	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C616	1-126-943-11	ELECT	2200μF	20%	25V	C1407	1-162-968-11	CERAMIC CHIP	0.0047μF	10%	50V
C617	1-123-024-21	ELECT	33μF		160V	C1408	1-162-968-11	CERAMIC CHIP	0.0047μF	10%	50V
C618	1-126-943-11	ELECT	2200μF	20%	25V	C1411	1-162-968-11	CERAMIC CHIP	0.0047μF	10%	50V
C619	1-117-214-11	CERAMIC (KV-29FV310(S) ONLY)	0.001μF	10%	2KV	C1412	1-104-656-11	ELECT	2200μF	20%	6.3V
C620	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	C1413	1-126-963-11	ELECT	4.7μF	20%	50V
C621	1-128-717-11	ELECT	680μF	20%	250V	C1420	1-126-960-11	ELECT	1μF	20%	50V
 C622	1-119-912-51	CERAMIC	0.001μF	20%	125V	C1450	1-100-120-51	ELECT	1000μF	20%	35V
C624	1-107-636-11	ELECT	10μF	20%	160V	C1451	1-137-194-81	FILM	0.47μF	5%	50V
C629	1-128-717-11	ELECT	680μF	20%	250V	C1458	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V
C632	1-126-947-11	ELECT	47μF	20%	35V	CONNECTOR					
C633	1-136-479-11	FILM	0.001μF	5%	100V	* CN503	1-573-963-11	PIN, CONNECTOR (PC BOARD)			
C634	1-126-964-11	ELECT	10μF	20%	50V	* CN600	1-580-843-11	PIN, CONNECTOR (POWER)			
C635	1-126-963-11	ELECT	4.7μF	20%	50V	* CN602	1-564-510-11	PLUG, CONNECTOR		7P	
C637	1-136-165-00	FILM	0.1μF	5%	50V	* CN603	1-695-915-11	TAB (CONTACT) (KV-29FV310(S) ONLY)			
C638	1-104-665-11	ELECT	100μF	20%	25V	* CN604	1-695-915-11	TAB (CONTACT) (ALL EXCEPT KV-29FV310(S))			
C640	1-126-942-61	ELECT	1000μF	20%	25V	* CN612	1-580-843-11	PIN, CONNECTOR (POWER)			
C642	1-126-969-11	ELECT	220μF	20%	50V	CN613	1-564-320-00	PIN, CONNECTOR(3.96MM PITCH)		2P	
C643	1-136-165-00	FILM	0.1μF	5%	50V	* CN1401	1-564-507-11	PLUG, CONNECTOR		4P	
C644	1-126-969-11	ELECT	220μF	20%	50V	* CN1404	1-564-510-11	PLUG, CONNECTOR		7P	
C645	1-162-964-11	CERAMIC CHIP	0.001μF	10%	50V	* CN1405	1-564-507-11	PLUG, CONNECTOR		4P	
C647	1-126-947-11	ELECT	47μF	20%	35V	* CN1601	1-564-509-11	PLUG, CONNECTOR		6P	
C648	1-164-143-11	CERAMIC	0.001μF	10%	1KV	DIODE					
C649	1-164-143-11	CERAMIC	0.001μF	10%	1KV	D501	8-719-404-50	DIODE	MA111-TX		
C650	1-100-120-51	ELECT	1000μF	20%	35V	D600	6-500-397-11	DIODE	GBJ4J10B9		
C651	1-126-942-61	ELECT	1000μF	20%	25V	D601	8-719-511-40	DIODE	S1VB40		
C652	1-165-176-11	CERAMIC CHIP	0.047μF	10%	16V	D608	8-719-110-31	DIODE	MTZJ-T-77-12C		
C653	1-126-960-11	ELECT	1μF	20%	50V	D611	8-719-062-40	DIODE	D4SBL20μF3		
C656	1-161-964-91	CERAMIC	0.0047μF		250V	D612	8-719-068-00	DIODE (ALL EXCEPT KV-29FV310(S))	ERC04-06SE		
C658	1-161-964-91	CERAMIC	0.0047μF		250V	D613	8-719-068-00	DIODE (ALL EXCEPT KV-29FV310(S))	ERC04-06SE		
C665	1-126-942-61	ELECT	1000μF	20%	25V	D614	8-719-057-52	DIODE	EZ0150AV1		
C667	1-164-625-11	CERAMIC	680pF	10%	500V	D615	8-719-062-40	DIODE	D4SBL20μF3		
C668	1-164-625-11	CERAMIC	680pF	10%	500V	D618	8-719-979-64	DIODE	UF4005PKG23		
C669	1-164-625-11	CERAMIC	680pF	10%	500V	D619	8-719-404-50	DIODE	MA111-TX		
C670	1-164-625-11	CERAMIC	680pF	10%	500V	D620	8-719-404-50	DIODE	MA111-TX		
C672	1-165-953-11	FILM	47000pF	3%	800V	D621	6-500-181-01	DIODE	MA6D50		
C690	1-126-971-11	ELECT	470μF	20%	50V	D624	8-719-510-12	DIODE	D10SC4M		
C1401	1-126-965-91	ELECT	22μF	20%	50V	D625	8-719-510-02	DIODE	D1NS4		
C1402	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V	D628	8-719-404-50	DIODE	MA111-TX		
C1403	1-162-970-11	CERAMIC CHIP	0.01μF	10%	25V						
C1404	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V						
C1405	1-127-715-91	CERAMIC CHIP	0.22μF	10%	16V						


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REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
D629	8-719-110-31	DIODE	RD12ESB2	COIL			
D631	6-500-175-01	DIODE	1E3-TB	L505	1-412-529-81	INDUCTOR	22μH
D632	6-500-175-01	DIODE	1E3-TB	L604	1-412-525-31	INDUCTOR	10μH
D640	8-719-404-50	DIODE	MA111-TX	L605	1-412-519-11	INDUCTOR	3.3μH
D641	8-719-404-50	DIODE	MA111-TX	L606	1-412-519-11	INDUCTOR	3.3μH
D645	6-500-175-01	DIODE	1E3-TB	L607	1-412-525-31	INDUCTOR	10μH
D646	8-719-404-50	DIODE	MA111-TX	L608	1-412-529-81	INDUCTOR	22μH
D647	6-500-175-01	DIODE	1E3-TB	L1400	1-410-470-11	INDUCTOR	10μH
D690	8-719-982-13	DIODE	MTZJ-27	PHOTO COUPLER			
D1400	8-719-991-33	DIODE	1SS133T-77	 PH602	8-749-924-35	PHOTO COUPLER	ON3171-R
D1401	8-719-110-08	DIODE	RD8.2ESB2	IC LINK			
D1402	1-247-807-31	CARBON	100 5% 1/4W	PS601	1-576-337-21	IC LINK	2.7A 50V
FUSE				PS1401	1-576-337-21	IC LINK	2.7A 50V
 F601	1-532-506-51	FUSE	6.3A 250V	TRANSISTOR			
	(KV-29FV310(S) ONLY)			Q509	8-729-423-33	TRANSISTOR	2SC3311A-QRSTA
 F601	1-576-193-11	FUSE	6.3A 125V	Q600	8-729-052-32	TRANSISTOR	IRFIB7N50A-LF31
	(ALL EXCEPT KV-29FV310(S))			Q601	8-729-052-32	TRANSISTOR	IRFIB7N50A-LF31
FERRITE BEAD				Q605	8-729-140-96	TRANSISTOR	2SD774-34
FB602	1-410-397-21	FERRITE	1.1μH	Q606	8-729-422-27	TRANSISTOR	2SD601A-Q
FB604	1-410-397-21	FERRITE	1.1μH	Q608	8-729-922-37	TRANSISTOR	2SD2144S-UVW
FB605	1-410-397-21	FERRITE	1.1μH	Q690	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
FB609	1-410-397-21	FERRITE	1.1μH	Q691	8-729-026-39	TRANSISTOR	2SA933AS-QT
FB614	1-410-397-21	FERRITE	1.1μH	Q1401	8-729-120-28	TRANSISTOR	2SC1623-L5L6
FB616	1-410-397-21	FERRITE	1.1μH	Q1402	8-729-120-28	TRANSISTOR	2SC1623-L5L6
FB617	1-410-397-21	FERRITE	1.1μH	RESISTOR			
FB650	1-410-397-21	FERRITE	1.1μH	R534	1-216-833-11	METAL CHIP	10K 5% 1/10W
FB651	1-410-397-21	FERRITE	1.1μH	R535	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
FB652	1-410-397-21	FERRITE	1.1μH	R603	1-219-513-11	METAL	4.7M 5% 1/2W
FB653	1-410-397-21	FERRITE	1.1μH		(ALL EXCEPT KV-29FV310(S))		
IC				R604	1-216-833-11	METAL CHIP	10K 5% 1/10W
IC600	8-759-670-30	IC	MCZ3001D	R606	1-216-833-11	METAL CHIP	10K 5% 1/10W
 IC601	8-749-012-13	IC	DM-58	R607	1-216-833-11	METAL CHIP	10K 5% 1/10W
IC605	8-759-450-47	IC	BA05T	R608	1-216-833-11	METAL CHIP	10K 5% 1/10W
IC609	6-702-873-01	IC	NJM2396F09	R609	1-205-998-11	CEMENTED	1 5% 10W
IC1401	6-704-065-01	IC	TFA9844J	R610	1-216-833-11	METAL CHIP	10K 5% 1/10W
IC1402	8-759-689-71	IC	NJM2188M-TE2	R611	1-216-833-11	METAL CHIP	10K 5% 1/10W
CHIP CONDUCTOR				R612	1-260-131-11	CARBON	470K 5% 1/2W
JR6	1-216-864-11	SHORT CHIP		R613	1-216-833-11	METAL CHIP	10K 5% 1/10W
JR10	1-216-864-11	SHORT CHIP		R614	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
JUMPER WIRE				 R615	1-202-933-61	FUSIBLE	0.1 10% 1/2W
JW1456	8-719-991-33	DIODE	1SS133T-77				


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REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
R616	1-216-822-11	METAL CHIP	1.2K	5%	1/10W	R1413	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R617	1-216-821-11	METAL CHIP	1K	5%	1/10W	R1414	1-216-846-11	METAL CHIP	120K	5%	1/10W
R618	1-216-864-11	SHORT CHIP				R1415	1-216-842-11	METAL CHIP	56K	5%	1/10W
R619	1-249-377-11	CARBON	0.47	5%	1/4W	R1416	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R620	1-215-857-71	METAL OXIDE	10	5%	1W	R1450	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-377-11	CARBON	0.47	5%	1/4W	R1457	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R623	1-249-429-11	CARBON	10K	5%	1/4W	R1458	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R625	1-216-817-11	METAL CHIP	470	5%	1/10W	R1461	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R626	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W	R1462	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R628	1-260-131-11	CARBON	470K	5%	1/2W	R1488	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R629	1-245-478-21	METAL	470K	1%	1/4W	RELAY					
R630	1-245-478-21	METAL	470K	1%	1/4W	RY501	1-755-198-11	RELAY, AC POWER			
R631	1-218-875-11	METAL CHIP	15K	0.50%	1/10W	 RY600	1-755-395-11	RELAY (AC POWER)			
R632	1-218-823-11	METAL CHIP	100	0.50%	1/10W	TRANSFORMER					
R640	1-249-417-11	CARBON	1K	5%	1/4W	 T601	1-435-617-11	TRANSFORMER, LINE FILTER			
R647	1-211-992-11	METAL CHIP	91	0.50%	1/10W	 T603	1-437-783-11	TRANSFORMER, STANDBY			
R650	1-249-441-11	CARBON	100K	5%	1/4W	(ALL EXCEPT KV-29FV310[S])					
R651	1-249-441-11	CARBON	100K	5%	1/4W	 T603	1-439-854-11	TRANSFORMER, STANDBY			
R658	1-249-393-11	CARBON	10	5%	1/4W	(KV-29FV310(S) ONLY)					
R659	1-249-393-11	CARBON	10	5%	1/4W	 T604	1-437-606-12	CONVERTER TRANSFORMER			
R660	1-216-833-11	METAL CHIP	10K	5%	1/10W	THERMISTOR					
R667	1-216-833-11	METAL CHIP	10K	5%	1/10W	THP501	1-803-540-11	THERMISTOR, POSITIVE			
 R668	1-249-413-11	CARBON	470	5%	1/4W	(KV-29FV310(S) ONLY)					
R670	1-216-833-11	METAL CHIP	10K	5%	1/10W	THP501	1-803-970-11	THERMISTOR, POSITIVE			
R671	1-243-979-71	METAL OXIDE	0.1	5%	2W	(ALL EXCEPT KV-29FV310[S])					
R672	1-243-979-71	METAL OXIDE	0.1	5%	2W	VARISTOR					
 R674	1-220-926-11	FUSIBLE	0.47	10%	1/2W	 VDR600	1-803-967-11	VARISTOR			
R687	1-205-998-11	CEMENTED	1	5%	10W	(KV-29FV310(S) ONLY)					
R688	1-205-998-11	CEMENTED	1	5%	10W	 VDR600	1-810-974-21	VARISTOR			
R691	1-216-837-11	METAL CHIP	22K	5%	1/10W	(ALL EXCEPT KV-29FV310[S])					
R692	1-216-837-11	METAL CHIP	22K	5%	1/10W						
R694	1-216-837-11	METAL CHIP	22K	5%	1/10W	* A-1404-850-A C (VAR) BOARD, MOUNTED					
R698	1-249-377-11	CARBON	0.47	5%	1/4W	(KV-27FV310/29FV310 ONLY)					
R699	1-218-265-11	METAL CHIP	8.2M	5%	1W	* A-1405-169-A C (VAR) BOARD, MOUNTED					
(KV-29FV310(S) ONLY)						(KV-32FV310 ONLY)					
R1401	1-218-895-11	METAL CHIP	100K	0.50%	1/10W	* A-1405-222-A C (VAR) BOARD, MOUNTED					
R1403	1-216-864-11	SHORT CHIP				(KV-36FV310 ONLY)					
R1404	1-216-837-11	METAL CHIP	22K	5%	1/10W	4-382-854-11 SCREW (M3X10), P, SW (+)					
R1405	1-216-841-11	METAL CHIP	47K	5%	1/10W						
R1406	1-218-692-11	METAL CHIP	1K	0.50%	1/10W						
R1408	1-216-823-11	METAL CHIP	1.5K	5%	1/10W						
R1410	1-216-861-11	METAL CHIP	2.2M	5%	1/10W						
R1411	1-216-839-11	METAL CHIP	33K	5%	1/10W						
R1412	1-216-843-11	METAL CHIP	68K	5%	1/10W						

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

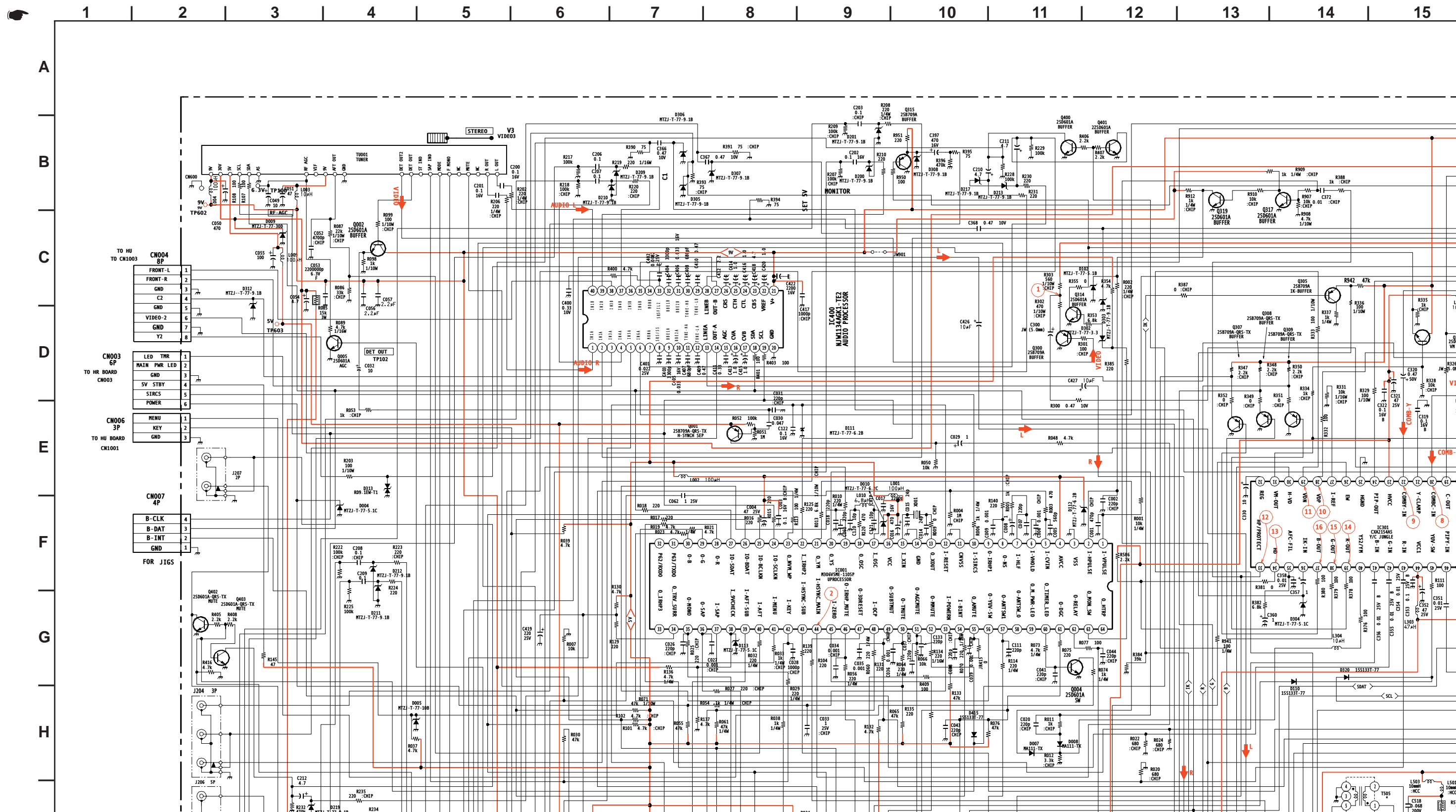


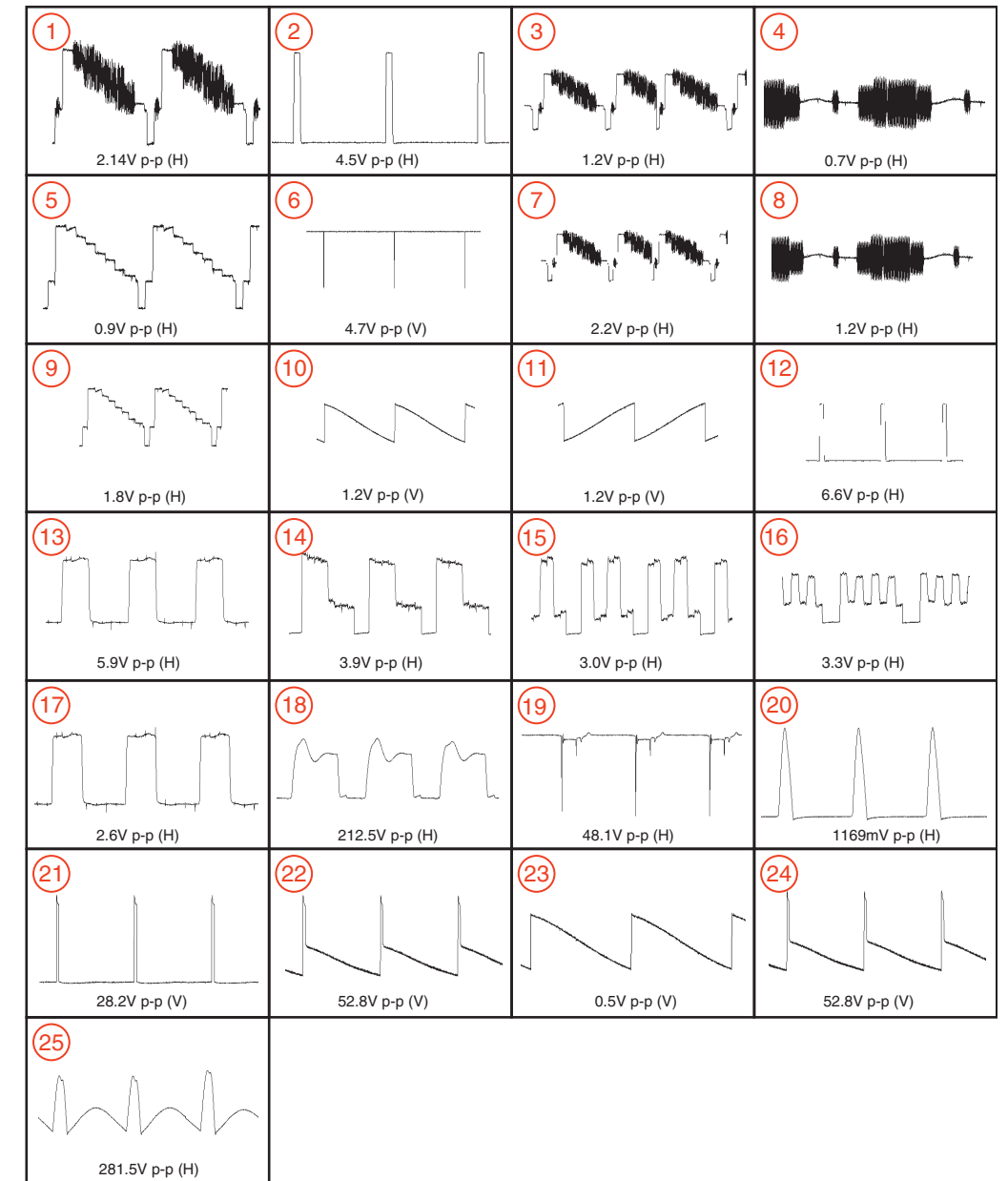
REF. NO.	PART NO.	DESCRIPTION	VALUES			REF. NO.	PART NO.	DESCRIPTION	VALUES		
<u>CAPACITOR</u>						<u>RESISTOR</u>					
C701	1-126-947-11	ELECT	47μF	20%	35V	R700	1-249-433-11	CARBON	22K	5%	1/4W
C702	1-136-165-00	FILM	0.1μF	5%	50V	R701	1-216-833-11	METAL CHIP	10K	5%	1/10W
C703	1-126-947-11	ELECT	47μF	20%	35V	R702	1-216-810-11	METAL CHIP	120	5%	1/10W
C704	1-107-652-11	ELECT	10μF	20%	250V	R703	1-216-809-11	METAL CHIP	100	5%	1/10W
C705	1-107-652-11	ELECT	10μF	20%	250V	R704	1-249-422-11	CARBON	2.7K	5%	1/4W
C706	1-137-528-11	MYLAR	0.1μF	10%	250V	R705	1-249-429-11	CARBON	10K	5%	1/4W
C707	1-162-114-00	CERAMIC	0.0047μF		2KV	R706	1-249-381-11	CARBON	1	5%	1/4W
C708	1-104-665-11	ELECT	100μF	20%	25V	R707	1-249-383-11	CARBON	1.5	5%	1/4W
C709	1-126-964-11	ELECT	10μF	20%	50V	R708	1-247-807-31	CARBON	100	5%	1/4W
C710	1-126-964-11	ELECT	10μF	20%	50V	R709	1-247-807-31	CARBON	100	5%	1/4W
C711	1-102-074-00	CERAMIC	0.001μF	10%	50V	R710	1-247-807-31	CARBON	100	5%	1/4W
C713	1-126-964-11	ELECT	10μF	20%	50V	R711	1-260-328-11	CARBON	1K	5%	1/2W
C714	1-126-947-11	ELECT	47μF	20%	35V	R712	1-260-328-11	CARBON	1K	5%	1/2W
<u>CONNECTOR</u>						R713	1-260-328-11	CARBON	1K	5%	1/2W
* CN701	1-564-506-11	PLUG, CONNECTOR		3P		R714	1-260-087-11	CARBON	100	5%	1/2W
CN702	1-695-915-11	TAB (CONTACT)				R715	1-260-132-11	CARBON	560K	5%	1/2W
CN704	1-785-879-11	CONNECTOR, ONE TOUCH				R716	1-260-123-11	CARBON	100K	5%	1/2W
* CN705	1-564-511-11	PLUG, CONNECTOR		8P		R717	1-216-377-11	METAL OXIDE	4.7	5%	2W
* CN706	1-564-510-11	PLUG, CONNECTOR		7P			(KV-32FV310/36FV310 ONLY)				
* CN707	1-508-879-11	BASE POST		4P		R717	1-216-395-00	METAL OXIDE	3.3	5%	3W
	(KV-36FV310 ONLY)						(KV-27FV310/29FV310 ONLY)				
<u>DIODE</u>						R718	1-216-372-11	METAL OXIDE	1.8	5%	2W
D701	8-719-901-83	DIODE	1SS83				(KV-32FV310/36FV310 ONLY)				
D702	8-719-901-83	DIODE	1SS83			R718	1-216-396-11	METAL OXIDE	3.9	5%	3W
D703	8-719-901-83	DIODE	1SS83				(KV-27FV310/29FV310 ONLY)				
D704	8-719-074-25	DIODE	PG104R			R719	1-215-888-00	METAL OXIDE	220	5%	2W
<u>IC</u>						R720	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
IC701	8-759-803-42	IC	LA6500-FA			R721	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
IC702	8-759-562-43	IC	TDA6108JF/N1B			R722	1-247-807-31	CARBON	100	5%	1/4W
IC703	8-759-701-59	IC	NJM78M09FA			R723	1-247-807-31	CARBON	100	5%	1/4W
<u>JACK</u>						R724	1-247-807-31	CARBON	100	5%	1/4W
 J701	1-451-470-21	SOCKET, CRT				R725	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
<u>COIL</u>						R726	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
L701	1-410-482-31	INDUCTOR	100μH			R727	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
<u>TRANSISTOR</u>						<u>VARIABLE RESISTOR</u>					
Q700	8-729-422-27	TRANSISTOR	2SD601A-Q			 RV701	1-241-656-11	RES, ADJ, METAL FILM	110M		
Q701	8-729-422-27	TRANSISTOR	2SD601A-Q			RV702	1-238-019-11	RES, ADJ, METAL FILM	47K		
Q703	8-729-422-27	TRANSISTOR	2SD601A-Q								

REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
<u>ACCESSORIES AND PACKING</u>				<u>REMOTE COMMANDER</u>			
*	4-041-423-01	SHEET, PROTECTION (KV-36FV310 ONLY)		1-476-681-12		REMOTE COMMANDER (RM-Y181)	
				4-978-977-11		BATTERY COVER (for RM-Y181)	
*	4-086-349-04	CARTON, HSC (KV-36FV310 ONLY)					
*	4-085-910-11	CARTON, INDIVIDUAL (KV-32FV310 ONLY)					
*	4-087-224-02	CARTON, INDIVIDUAL (KV-27FV310 ONLY)					
*	4-093-914-01	CARTON, INDIVIDUAL (KV-29FV310 ONLY)					
*	4-085-911-03	CUSHION, FRONT (UPPER) (KV-32FV310 ONLY)					
*	4-086-352-01	CUSHION, FRONT (UPPER) (KV-36FV310 ONLY)					
*	4-087-222-01	CUSHION, UPPER (KV-27FV310/29FV310 ONLY)					
*	4-085-912-02	CUSHION, REAR (UPPER) (KV-32FV310 ONLY)					
*	4-086-353-02	CUSHION, REAR (UPPER) (KV-36FV310 ONLY)					
*	4-085-913-02	CUSHION, LOWER (KV-32FV310 ONLY)					
*	4-086-354-02	CUSHION, LOWER (KV-36FV310 ONLY)					
*	4-087-223-01	CUSHION, LOWER (KV-27FV310/29FV310 ONLY)					
*	4-041-259-05	BAG, PROTECTION (KV-27FV310/29FV310 ONLY)					
*	4-066-845-02	BAG, PROTECTION (KV-32FV310 ONLY)					
*	4-087-598-01	BAG, PROTECTION (KV-36FV310 ONLY)					
	4-093-876-21	MANUAL, INSTRUCTION (KV-27FV310/32FV310/36FV310 ONLY)					
	4-093-876-31	MANUAL, INSTRUCTION (KV-27FV310/32FV310(CND)/36FV310(CND) ONLY)					
	4-093-876-41	MANUAL, INSTRUCTION (KV-29FV310 ONLY)					

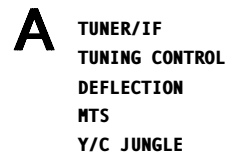
5-4. SCHEMATICS AND SUPPORTING INFORMATION

A BOARD SCHEMATIC DIAGRAM



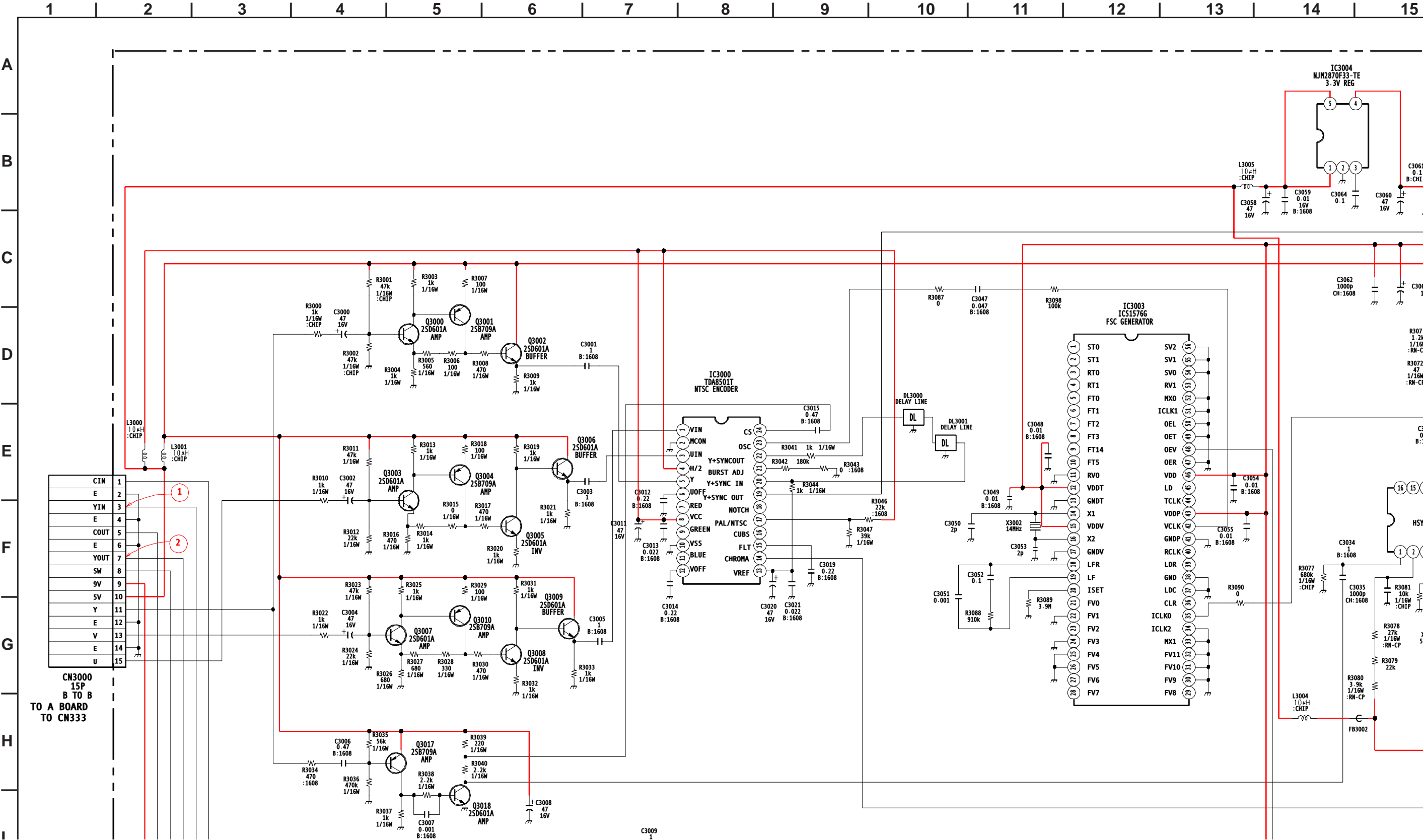


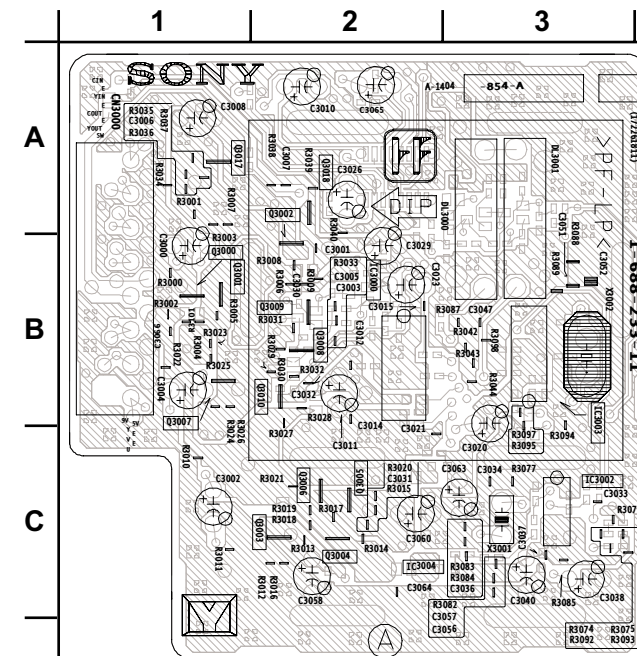




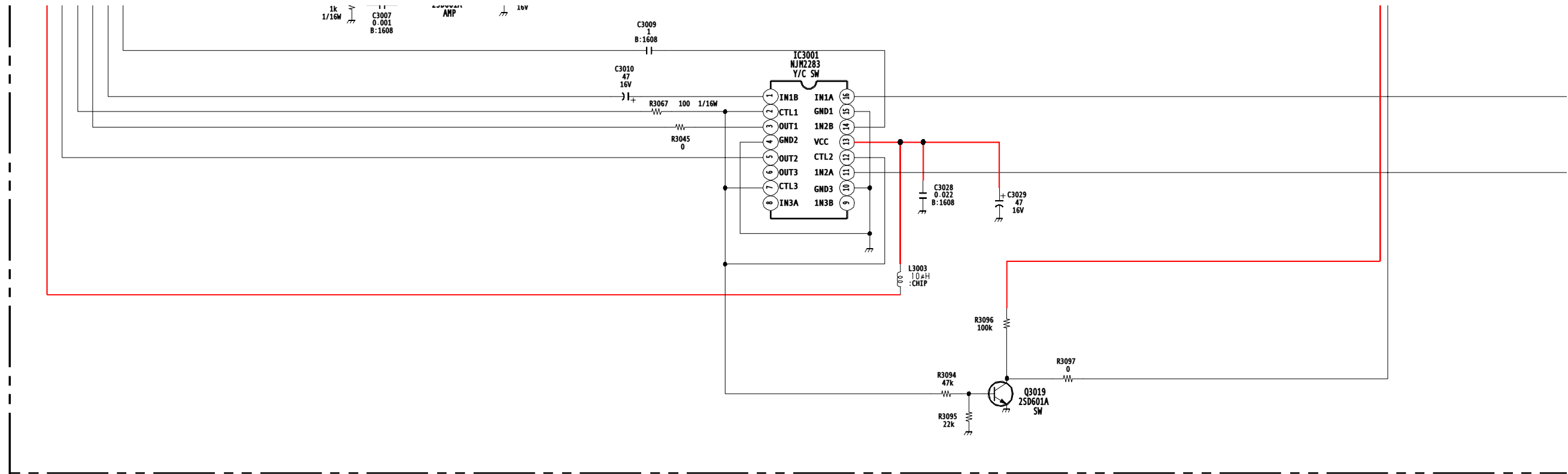
Y BOARD SCHEMATIC DIAGRAM

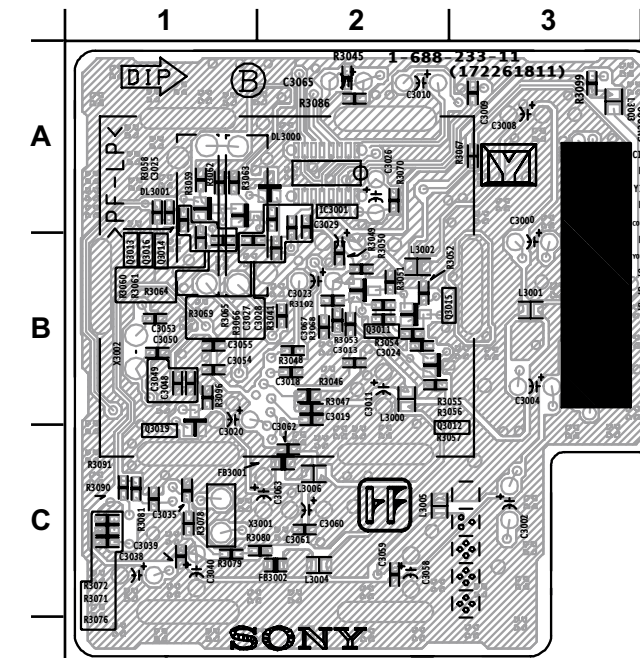
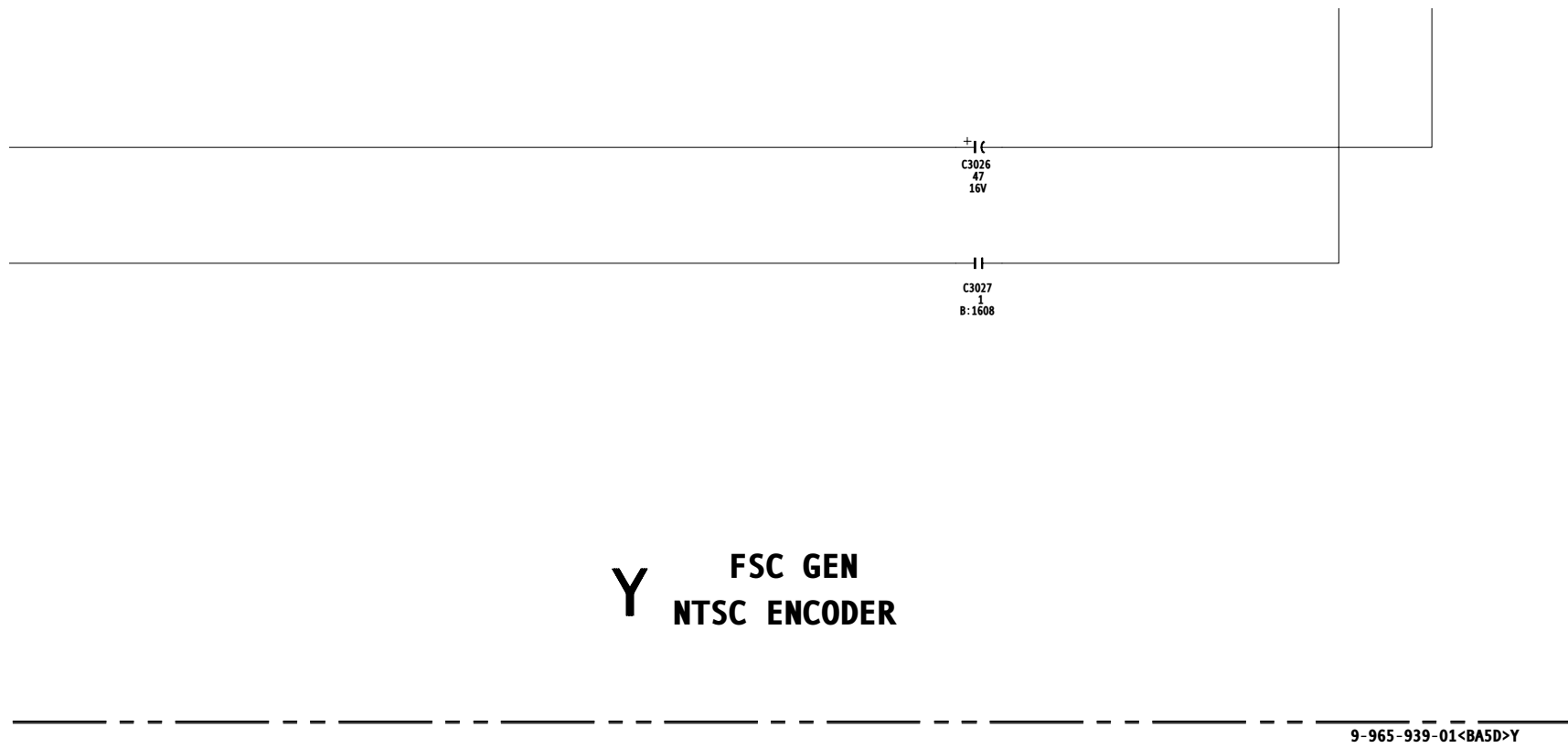
Due to the complexity of this board, performing component level field repairs is not recommended. If service is required, complete board replacement is the preferred repair method. Data is provided for reference only.



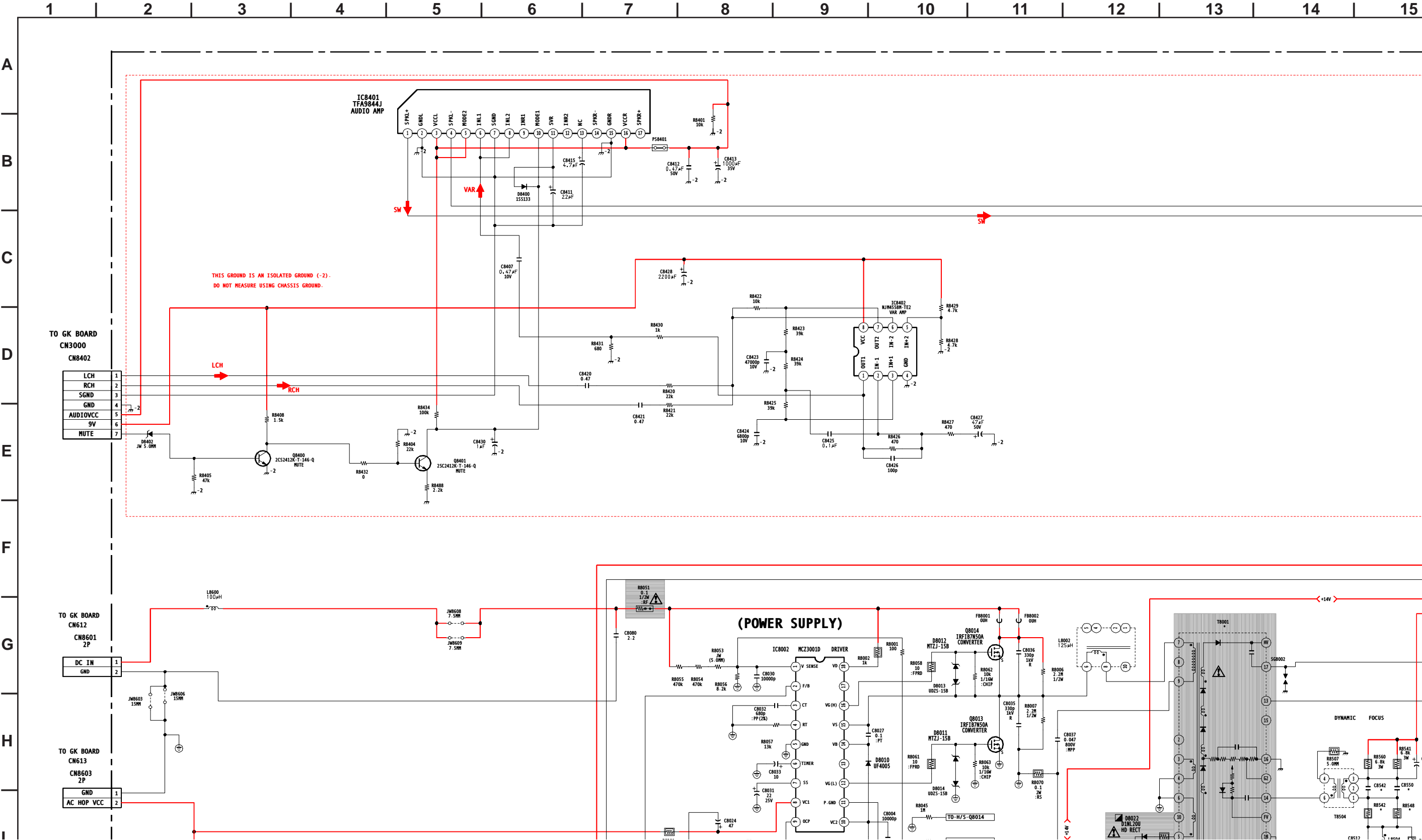


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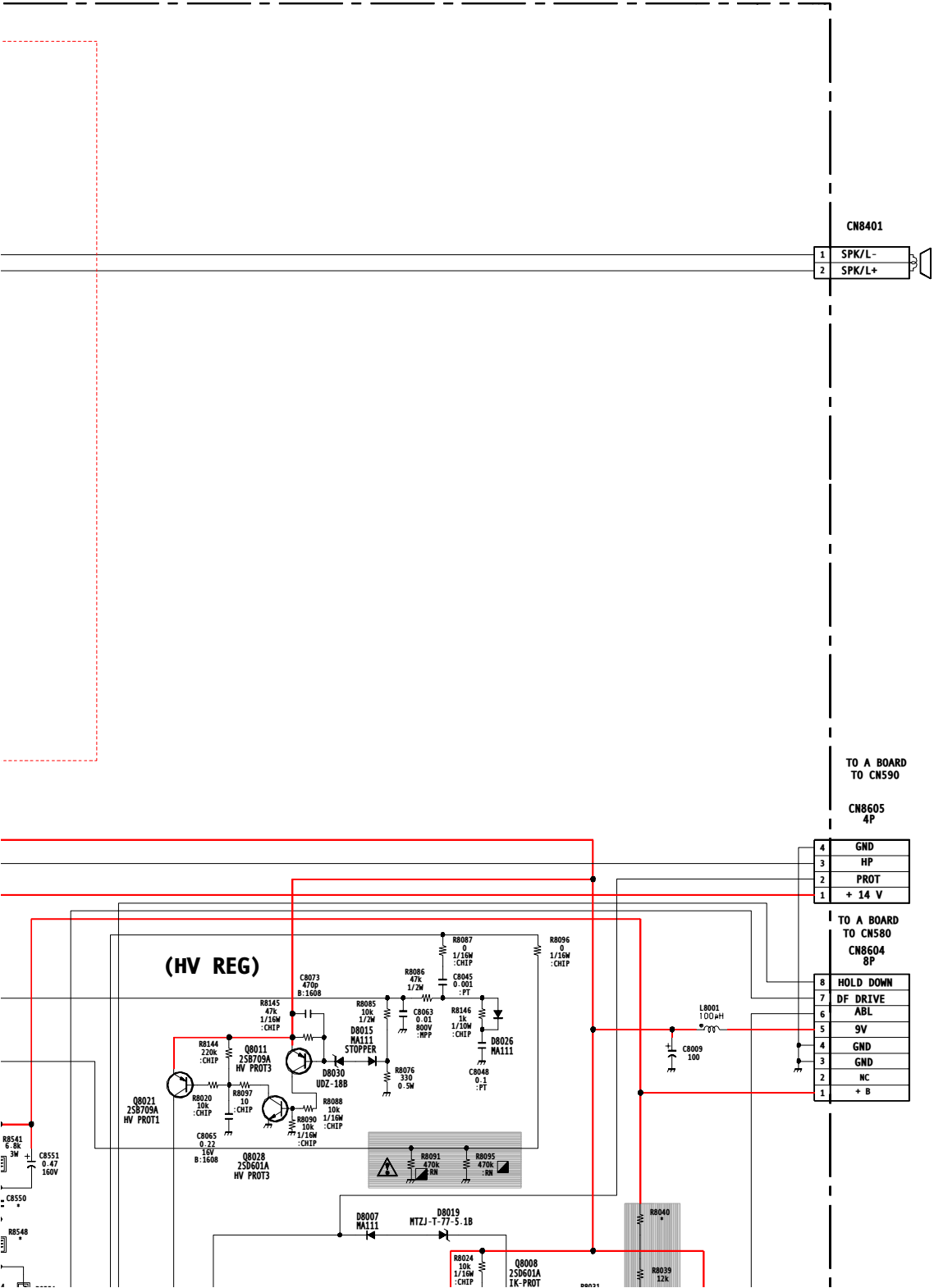




D BOARD SCHEMATIC DIAGRAM



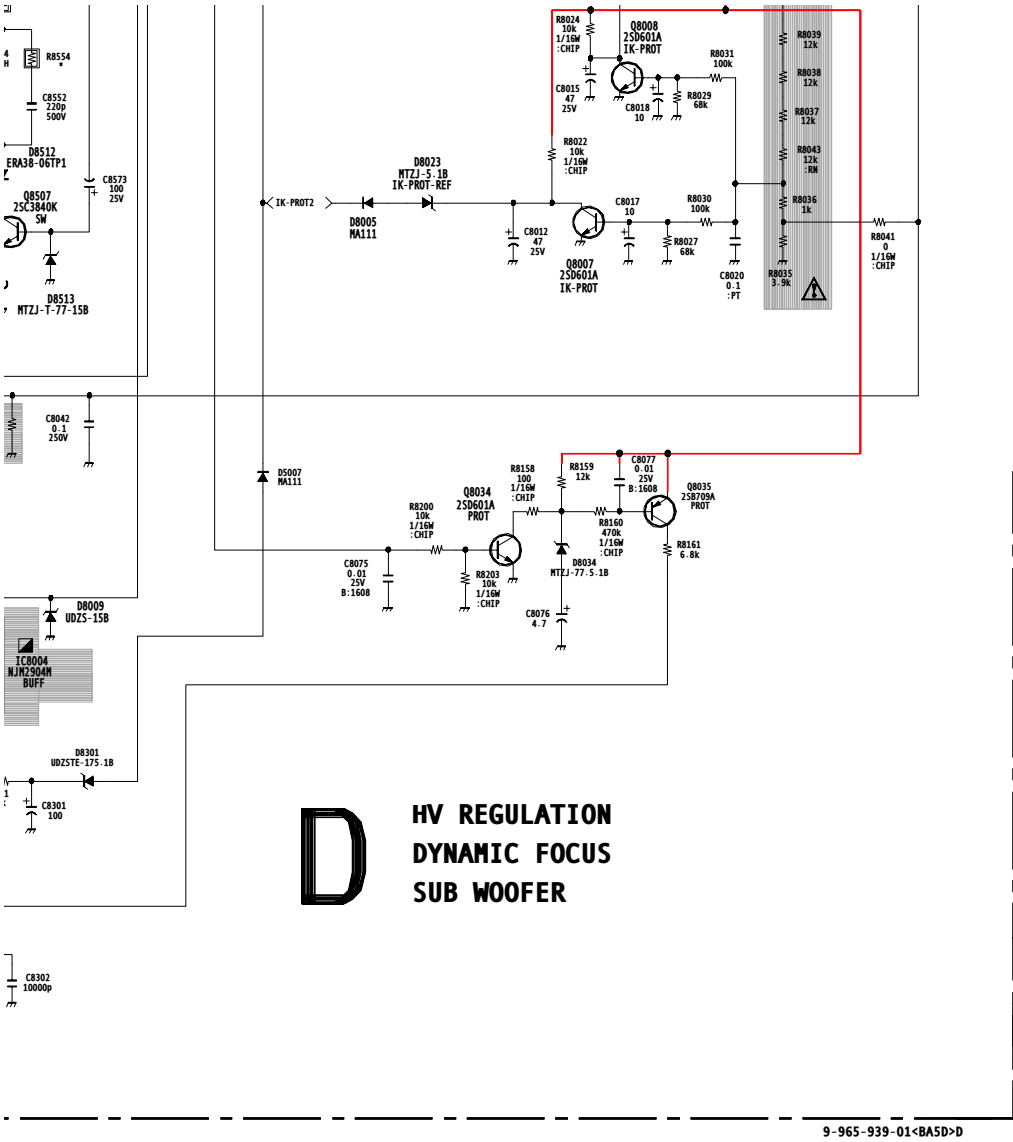
15 | 16 | 17 | 18 | 19 | 20 | 21



D BOARD IC VOLTAGE LIST

IC8001		IC8004		IC8401	
PIN	VOLT	PIN	VOLT	PIN	VOLT
1	0.0	1	14.0	1	8.3
2	2.5	2	0.9	2	GND
3	2.1	3	0.9	3	19.6
4	GND	4	GND	4	8.3
5	2.3	5	7.1	5	19.6
6	2.5	6	7.1	6	3.2
7	0.0	7	7.1	7	0.0
8	17.5	8	45.2	8	0.0
IC8002		IC8005		9	3.2
PIN	VOLT	PIN	VOLT	10	9.1
1	2.8	1	2.4	11	9.7
2	1.9	2	GND	12	3.2
3	2.3	3	11.0	13	3.3
4	2.6	IC8006		14	8.3
5	GND	PIN	VOLT	15	GND
6	0.0	1	N/C	16	19.6
7	4.6	2	N/C	17	8.3
8	17.5	3	N/C	IC8402	
9	0.0	4	GND	PIN	VOLT
10	10.6	5	2.3	1	4.6
11	0.0	6	2.5	2	4.6
12	4.9	7	0.0	3	4.6
13	2.3	8	14.0	4	GND
14	163.9	IC8104		5	4.6
15	153.8	PIN	VOLT	6	4.6
16	158.2	1	2.5	7	4.6
17	2.6	2	GND	8	9.0
18	314.0	3	2.5		

All voltages are in V.



D BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q8003	0.2	2.7	GND
Q8004	0.2	2.7	GND
Q8007	0.0	0.0	GND
Q8008	0.0	0.0	GND
Q8011	9.0	0.0	9.0
Q8021	9.0	0.0	9.0
Q8028	0.0	9.0	GND
Q8034	0.0	9.0	GND
Q8035	9.0	2.5	9.0
Q8400	0.0	0.0	GND
Q8401	0.0	0.0	GND
Q8507	0.0	38.0	GND

	D	G	S
Q8013	155.0	4.3	GND
Q8014	315.0	158.0	156.0

All voltages are in V.

PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convenience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS


If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

- 1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS



Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.


If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

- 1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape () mode.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

- 1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like: .
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like: .
- 2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.
- 3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee. 

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

- 1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.
- 2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool
- 3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The "Find" window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the "Find" button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select "Find Again."